The First-Time Gardener:

RAISED BED GARDENING

ALL THE KNOW-HOW YOU NEED
TO BUILD AND GROW A RAISED BED GARDEN

CALIKIM
OF YOUTUBE'S *CALIKIM GARDEN & HOME DIY*

- PLAN, BUILD, FILL & PLANT YOUR FIRST RAISED BED GARDEN
- THE BEST BEGINNER-FRIENDLY VEGGIES FOR RAISED BEDS
- TIPS FOR TENDING YOUR GARDEN NATURALLY
- OVER A DOZEN GARDEN LAYOUTS & PLANTING PLANS INCLUDED

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To my incredible and endlessly supportive family: Jerry, Julianne, Drew, and our faithful garden dog, Mac. You're my cheerleaders, my "why," my heart, and my inspiration!

contents

Introduction 6

Welcome to Raised Bed Gardening 6

What Are Raised Beds? 7

1

Getting Started 11

The Best Journey Starts with a Plan 11

2

Building Your Raised Beds 25

Making the Dream into a Reality 26

3

Filling Your Raised Beds 63

It's All in the Soil 64

4

Planting and Growing in Your Raised Beds 79

Keep It Simple, Expand Later 79

Beginner-Friendly Crops to Grow in Raised Beds 79

Staking, Trellising, and Other Structures 84

5

Layouts and Planting Plans for Your Raised Beds 133

Here We Grow! 133

Conclusion 168

Resources 169

About the Author 171

Index 172

Introduction

Welcome to Raised Bed Gardening

Growing Your Own Food Is Not as Hard as You Think

Hi everyone! I'm CaliKim, an organic gardener from Southern California. I love to grow my own vegetables and teach people all over the world to grow their own food using the quick, simple, and inexpensive methods that I have learned. I share my experiences though the YouTube channel, CaliKim Garden & Home DIY, in my first book, *Organic Gardening for Everyone: Homegrown Vegetables Made Easy*, and by offering garden tips and lots of support on social media.

But I want you to know that I haven't always grown my own food—there was a time in my life when I thought it was too hard. I didn't think I could do it and I didn't know how to get started. My thumb was brown (or so I thought) and I was afraid of making some horrible mistake that would kill my plants. I only had a small cement patio on which to grow plants and I didn't think I had space for a garden. And, as a busy stay-at-home mom of two young kids on a tight budget, I didn't think I had the time or the money to set up a garden. However, I was fed up with eating cardboard-tasting tomatoes and flavorless produce from the supermarket. In spite of my misgivings, I desperately wanted to find a way to grow my own bountiful organic garden and provide my family with food that was healthy and packed with flavor. I wanted to know exactly where my food came from, what environment it had been grown in, and that it had the unmatched flavor of garden-fresh vegetables.

I dreamed of garden beds filled with colorful vegetables and showstopping flowers—with bees buzzing around and birds singing away. I envisioned meandering down long, vibrant pathways in between garden beds that I had planted from seed. I pictured myself wandering out to the garden after a busy day, soaking in the beauty around me, and feeling the stress of the day melting away as I filled a basket with fresh fruits, vegetables, and herbs for a delicious garden-to-table meal.

Can you relate? Do you have a dream and the desire to garden but no idea where to start? Do you sometimes hear, as I did when I first started, your own whispers of "brown thumb," "you don't know how," or "it's too hard?" Are you one of the millions who is now digging into vegetable gardening not only to reduce trips to the grocery store but also for the peace of mind gained from knowing that your family is eating heathy food and knowing exactly where it came from and what's in it? Or maybe you want to garden with your kiddos and at the same time create precious family memories, have a healthy outdoor activity, and teach your children valuable life skills.

Welcome to the Wonderful World of Raised Bed Gardening

Whatever your reasons may be and no matter what those whispers of self-doubt may say to intimidate you and make it seem too difficult—don't let anything or anyone stop you from pursuing your dream of creating your own grocery store in your garden.

Welcome to the wonderful world of raised bed gardening. Growing your own vegetables is not as hard as you think, *if I can do it, you can do it*. Growing in raised beds turns a task that you might think is hard and overwhelming, into a simple, cost-effective way that you can grow tons of your own food—even if *you've never done it before or think you have a brown thumb*! Raised beds are the perfect fit for any gardener, whether you have absolutely no experience growing vegetables, have tried before and not been successful, or are a seasoned gardener and are looking for a new way to grow more veggies with less work.

What Are Raised Beds?

Raised beds are essentially large boxes or containers that can sit on top of just about any surface—cement, stone, gravel, grass, hard-packed soil, or weeds. Did I mention they don't have to be square? They can be any shape you like—round, octagonal, Y-shaped, or triangular—the sky's the limit! (We'll have fun with this one in Chapter 2.) No backyard? No problem. Raised beds can be large or small and even customized to fit your space.

Why Are Raised Beds Taking the World by Storm?

In the past few years, interest in growing organic vegetables at home has reached an all-time high, and with this raised beds are taking the world by storm. Why? Raised beds are a quick, simple, inexpensive way to get started. They have several big-time benefits to ensure that you, as a first-time gardener, will have plenty of fresh from the garden goodness on your dinner plate, even in your first growing season. Here are some of my favorite reasons to garden using raised beds.

Benefit #1

RAISED BEDS FIT ANY SPACE

Whether you have a huge backyard or are growing in a small space, raised beds are the perfect solution. Raised beds allow you to grow a vegetable garden *anywhere* you have a bit of space and sunshine. Have you got a deck, patio, balcony, side yard, or driveway? Perfect—you can pop up a raised bed in your sunniest spot, sow some seeds, and grow a garden of the most amazing veggies you've ever eaten. Just steps from your back door, fresh vegetables can be available to supplement what you purchase at the supermarket. Do you have a big backyard? Awesome! You can go crazy with the number of raised beds you install and will be able to grow a significant portion of your fruit and veggie requirements.

Benefit #2

CONTROLLED ENVIRONMENT

When growing in raised beds, it's easy to create a controlled environment where fruit and vegetable plants will thrive. If you have clay soil, rocky soil, or no soil at all in your backyard—no worries, raised beds will come to your rescue! When you build your raised beds, you'll fill them with organic soil that is chock full of nutrients that will feed your plants just what they need to produce delicious vegetables to delight your taste buds. You might be concerned about the cost of all the soil that is needed to fill up your new raised beds. Don't worry, I'll teach you how easy it is to make your own soil and how to fill your raised beds on the cheap. (There are several soil recipes in Chapter 3.)

What about weeds? Since you're planting in your own customized, loose, nutrient-dense soil, weeds are virtually eliminated. (Can I hear a "woo-hoo?") When you do have weeds, they are easily removed because of the light and fluffy nature of the soil in your raised bed.

Benefit #3

EFFECTIVE DRAINAGE

Always think drainage, drainage, drainage when it comes to growing your veggies. Since raised beds are, by definition, raised up off the ground, the soil drains more effectively than in-ground gardens. Good drainage allows water to be absorbed into the soil and lets excessive moisture drain out so the soil isn't waterlogged. Proper drainage helps the roots get the oxygen and nutrients they need to grow healthy, productive plants. And good

drainage helps avoid diseases such as root rot that can stop your garden dead in its tracks.

Benefit #4

SOIL WARMS QUICKER AND STAYS WARMER LONGER

Want to get your garden planted sooner each spring? I've got great news for you! The soil in raised beds warms up quicker than in-ground gardens because it is up off the ground. Warmer soil means your veggies will take off quicker after they are planted, and they will be harvested and make their way to your table sooner. What's more, raised beds help veggies stay cozier (warmer) when cooler air temperatures arrive in the fall. Raised bed will even let you grow into the winter months simply by attaching DIY winter covers to the sides to protect your garden from frost. (More on winter covers in Chapter 4.)

Benefit #5

ACCESSIBILITY

With raised beds you don't have to kneel on the ground or bend over as much, which saves your back. (Yay, no more knee pads!) Raised beds also make it easier for those with physical limitations to comfortably garden. Since many families are gardening together these days, why not help your children build their own, custom-made, kid-friendly raised bed garden. It'll encourage them to join in the gardening fun. Kids always eat more veggies when they grow their own!

Benefit #6

QUICK, SIMPLE, BUDGET FRIENDLY

Let's face it, we're all busy. We want things quick, simple, and inexpensive. And we *love to have* options. Rest assured, if you're intimidated at the thought of setting up raised beds, there is no end to the number of easy, budget-friendly options available. Whether you want to build your own beautiful, functional raised beds or purchase a pre-made fabric bed that you can pop up, fill with soil, and plant—you'll find an option within these pages that works for you. I'll show you how in Chapter 2, with five Do-It-Yourself (DIY), cost-effective plans that require no previous construction experience. Raised beds come in so darn many shapes, sizes, and colors that there's bound to be one (or two, or three) that will fit your experience level, budget, and personal style.

Why You Need This Book

In *The First-Time Gardener: Raised Bed Gardening*, you'll find *all* the know-how you need to build and grow a raised bed garden. My first book *Organic Gardening for Everyone: Homegrown Vegetables Made Easy* shows you how easy and fun it is to grow your own tasty, organic vegetables from seed to harvest (and everything in between). This book takes you a step further down the road on your gardening journey and shows you how to grow your amazing veggies in raised beds.

You'll learn step-by-step how to:

- choose the best raised bed for your space,
- locate your raised bed correctly,
- choose which soil to use in your raised bed (including how to make your own soil),
- pick which beginner-friendly veggies to plant,
- design 10 planting layouts (including a pizza garden, salsa garden, herb garden, and salad station—hungry yet?),
- create your own supports and trellises for vertical growing, saving space, and helping you grow a ton of veggies—even in a small, raised bed,
- water, fertilize, and mulch your veggies so you'll successfully grow baskets full of produce even in your first growing season.

There are tons of quick simple, inexpensive tips and tricks found here to help you garden in a way that you won't feel overwhelmed, so you'll enjoy growing in raised beds season after season. When you're finished reading and implementing the how-to's within these pages, you'll be armed with all the knowledge you need to grow loads of your own vegetables that are brimming with freshness and flavor. It truly is a one-of-a-kind satisfaction—you'll be hooked and will never turn back!

Still a little nervous? I'll be right here by your side, every step of the way. I'll be helping you grow your very own garden grocery store, providing motivation, inspiration, encouragement, and cheering you on to veggie growing victory!

Ready to start your raised bed garden journey? Let's dig in together!

1

Getting Started

Now that you've decided to jump in and garden with raised beds, you might have a myriad of questions such as:

- How much space will I need?
- How many raised beds should I plant for my family?
- How do I know where to place my raised beds?
- How big do I build each bed?
- How deep should the raised beds be and what shape is best?
- Do I need pathways between the beds?

The Best Journey Starts with a Plan

Before I help you answer these questions, think back for a moment to your first road trip. What did you do first? You made a plan. You mapped out where you were going, filled up your gas tank, packed snacks and water, and planned stops along the way. You got up early and set out for your destination. Perhaps you saw some beautiful sights along the way, or maybe the scenery was humdrum. You may have gotten lost a few times, hit a few detours or roadblocks, and maybe you even ran out of gas. In spite of these glitches, you found your way and arrived at your destination safely, all in one piece. And I bet you felt like you conquered the world!

The best journey starts with a plan. You'll undoubtably run into some bumps along the way as you head down the metaphoric road to growing your own organic vegetables. Rest assured, there are no failures here, the bumps (forgetting to water, having plants die, or packing too much into your raised bed) are all part of the journey. Expect to learn tons along the way as you plant and grow. The key to enjoying the trip is planning out your raised bed garden, figuring out some of the answers to the previous questions *before* you start, keeping it simple, and managing your expectations.

Planning your raised bed garden is key to successfully growing (and enjoying) many tasty harvests.

Installing a raised bed garden will most likely mean a re-arrangement or even a total makeover of your outdoor space. Taking into consideration the size of your family, how much of your own food you want to grow, and your available time, space, and budget will help you decide the size of your raised beds and how many you should build. Where you place your raised beds in your outdoor space will determine how much sunlight, drainage, water, and air circulation your garden will receive—which will in turn affect the type of vegetables you grow and how productive your garden will be. This chapter will not only help you think through these questions up front *before* you start but will also give you the plan and know-how you need to make your dream of growing your own garden grocery store using raised beds a reality.

If this is your first time growing in raised beds, I'll be with you, providing lots of inspiration and guidance, every step of the way from planning to building, filling, and planting your beds. The goal isn't to have perfectly planted and maintained raised beds, but to have fun and enjoy the journey. When you get to where you're growing—a harvest of your very own vegetables that bursts with freshness and flavor—you'll feel incredibly satisfied. You'll proudly say, "I grew this!" and will want to garden in raised beds season after season. Let's head down the road together. Are you ready to hit it?

Raised Bed Journey Question #1: *How Much Space? How Many Beds?*

First things first. There are six key factors when planning your raised bed garden space and determining how many beds you'll need.

Factor #1: How much time do you have to devote to growing veggies?

A garden is a blessing and a joy but can also leave you feeling overwhelmed and worn out if you plant more than you have time to maintain. A small garden with 3-5 raised beds may take just a few hours a week to keep up, whereas a larger garden with 5-15 raised beds can take a significant chunk out of your weekly schedule. Plan accordingly for your lifestyle—but remember you don't have to do it all by yourself. Get the whole family involved and enlist the help of friends or neighbors who might want to grow along with you! One of the rewards of gardening is sharing your passion (and your harvests).

Factor #2: How much space do you have?

If you live in an apartment or condo and have a small space to grow in—you can still grow your own food. There are a ton of fruits and veggies you can grow, even with little or no backyard space on a patio or balcony. Raised beds are a perfect solution. With a small growing space, you'll need to plan and measure carefully in order to maximize the space you do have and install your raised beds accordingly.

Determining how many raised beds you'll need is an important step in planning your garden.

Raised beds are a perfect solution for growing your own fruits and veggies on a deck, patio, or balcony.

Smaller crops such as herbs, salad greens, beans, peppers, and radishes will take up less space than larger sprawling and/or vining vegetables like eggplant, tomatoes, squash, watermelon, peas, and cucumbers. Many of these larger, vining vegetables can be grown vertically on trellises and supports to make the most out of every square inch.

If you have a large outdoor space, you'll need to determine how much of it you'd like to designate to your garden, as well as the best location where you can grow the most food. (There will be more on where to locate your beds later in this chapter.)

Factor #3: Is your goal for vegetable gardening to supplement or be self-sufficient?

If your gardening goal is to grow your own tasty, fresh fruits, vegetables, and herbs to supplement what you purchase from the supermarket, a kitchen garden is the way to go and will require much less space than if your goal is to grow all your produce and have a self-sufficient garden.

Typically, a kitchen garden is relatively small in size and for easy access is positioned in close proximity to the house. Kitchen gardens are usually planted in containers or raised beds. I love nothing better than stepping outside my back door for a quick visit to my own kitchen garden grocery store to snip herbs and veggies for a salad or peppers and eggplant to grill up for dinner!

Depending on available space, a kitchen garden can consist of one to three raised beds of various sizes. In them plant the vegetables that your family enjoys the most and will eat daily such as tomatoes, peppers, squash, beans, salad greens, and herbs. When intensively planted, a kitchen garden can provide a significant amount of fresh, tasty veggies and take a chunk out of your grocery budget. Growing a kitchen garden in raised beds makes quick work out of growing veggies. Build your own beds, or pop up pre-built or fabric raised beds, and add soil and seeds—and you'll quickly have a garden in a convenient location that you'll visit often.

If your goal is self-sufficiency and you want to grow most or all of the produce your family eats, the space requirement will be much greater. The square footage and number of raised beds needed will vary a lot depending on the crops you're growing. Keep in mind, with a self-sufficient garden, you'll also need space indoors to store your garden goodies—freeze, can, or otherwise preserve them.

Most first-time gardeners don't have this kind of space and will start out with a much smaller garden. Remember my garden motto? Start simple and expand later. So, start simple with a few raised beds and expand over time as your skills grow—but only if space and time allow. As a new gardener, give yourself permission *not to do it all at once*. Work your way towards self-sufficiency if this is your ultimate goal.

Factor #4: How many people do you want to grow veggies for?

It goes without saying that a single person or a couple won't need as many raised beds as will a family of four, so figure accordingly. A good beginning garden for a couple is one or two raised beds that are 4 feet × 8 feet (1.2 × 2.4 m). For a family of four with small children, up that to 3 or 4 raised beds if space allows and get the kids involved in the planting and harvesting processes.

However, when planning your raised beds—don't forget that the rewards of gardening go above and beyond growing and eating your own veggies. Sharing adds to the satisfaction of growing your own food! I always include enough space in my garden for extra veggies to share. I love bringing garden-fresh salads or grilled vegetables to parties and extended family gatherings. Dropping off a basket of fresh tomatoes to my neighbor brings me joy. It's a thrill to see those I love enjoy garden fresh goodness too!

Factor #6: What vegetables and fruits do you like to eat?

Above all, when considering how much space to designate to your garden, fill your raised beds only with what you like to eat! There's no sense wasting valuable garden real estate on fruits and vegetables that you (or your family) don't care to eat. That being said, don't be afraid to experiment with new varieties! Homegrown vegetables taste completely different than their grocery store counterparts. Plant at least one new veggie each growing season. If you like it, plant more!

Factor #5: What is your budget?

Limited budget? No problem, it's time to get creative! Used materials can often be found for free or for a reduced cost at online marketplaces. Check with friends and neighbors to see if they have any materials they don't need. It's perfectly okay and environmentally friendly to reuse and recycle wood or other materials to build your raised beds. (More about the pros and cons of different raised bed materials in Chapter 2). You can even set up a front yard produce stand (if allowed) to sell some of your garden bounty to the neighborhood and earn money for more materials. Where there's a will, there's a way—garden or bust!

If you have a larger budget to purchase new materials or pre-made beds—go for it. And if you're able, help those who might not be able to afford the cost of setting up their garden.

Raised Bed Journey Question #2: *How Do I Choose the Best Location for My Raised Beds?*

The beauty of raised beds is that they can sit on top of any surface, such as hard-packed soil, bricks, grass, concrete driveways, narrow side yards, wood decks, or stone patios. Where, and how, to locate your raised beds is something you'll want to plan out and decide at the beginning of your raised bed journey. Even if you have never planted a garden before, the four guidelines in this section, along with a little bit of good ol' common sense and observation, will help you choose the best possible site for your raised beds so your veggies will thrive. Ready to pick a spot for your new garden grocery store? Let's go.

Fill your raised beds with fruits and vegetables your family loves to eat.

Raised beds can be placed on top of any surface, such as grass, hard-packed soil, bricks, or concrete.

Guideline #1: Keep Raised Beds Close for Easy Access

Since you'll be visiting your garden often to care for it, place your raised beds as close to your house as possible and in an easy-to-access spot. When your garden grocery store is steps away from your back door, you're more likely to take a quick walk to water, check for pests, pull weeds, or just do a daily visual check-in on your garden. Close by, it will be easier to dash out to snip a few of your favorite herbs and grab some peppers to throw on your grill as you fire it up for a summer BBQ. Not only that, you'll also delight in seeing your beautiful garden from your window—it will put a smile on your face each and every time. Easy access will also make it convenient to haul soil, compost, plants, and other supplies to your garden.

Guideline #2: Sunshine Is a Garden's Best Friend

Sunshine and growing *lots* of veggies go hand in hand. Most vegetables (including tomatoes, peppers, beans, squash, cucumbers, eggplant, broccoli, and cauliflower) need a full 6+ hours of direct sun a day. And many vegetables will reward you with more harvests if they get 8-10 hours of sunshine daily.

If you don't have a large sunny spot, there's plenty you can grow in partial sun (3-4 hours of sunlight) locations. My garden has multiple garden beds with varying amounts of sunlight—I simply plant veggies in the areas where they grow well based on the amount of sunlight that particular location receives. Dwarf or cherry varieties of tomatoes, as well as lettuce, spinach, kale, chard, and other leafy vegetables will still produce in 3-4 hours of sunlight a day. In fact, shaded garden beds will help lettuce and other cool-weather herbs and veggies grow a bit longer before they bolt from the summer heat.

With a little observation, it's easy to determine if a potential garden site has enough sunlight. Walk 6 to 8 feet (1.8-2.4 m) or so from your home to find the best test spot (if your outdoor space allows this). Stake off a 4-foot × 8-foot (1.2 × 2.4 m) section (the size of a typical raised bed). You can adjust the size and distance you walk from your home to fit your outdoor space. Observe the staked area every few hours throughout the day. Note when and where the shadows from your house, trees, fence, or other nearby buildings fall on that spot and how many hours of sunlight it receives during the day. Keep in mind that the recommended 6+ hours of sunlight doesn't have to be consecutive hours. If this location gets 3 or more hours of sun in the morning, is shaded at midday, and gets 3 or more hours of sun later in the afternoon, you've found the sweet spot for your raised beds.

Place your garden grocery store near your house so you can pop out to snip herbs and harvest veggies for a meal.

Sunshine is your garden's best friend, and 6 to 8 hours a day is ideal.

CHANGING SEASONS

Keep in mind that in the fall and winter months, depending on your location, the sun will be lower in the sky and the shadows will be longer, so you may have more shade in your garden. During the summer when the sun is higher in the sky, the shadows are shorter, and the same spot may be in full sun. For example, my garden receives 8 to 10 hours of daily sunlight during the summer. However, in the fall and winter months, it receives just a few hours of daily sunlight as the sun is lower in the sky and it's shaded by our house for most of the day. I simply adjust what I plant based on the season and how much sun the garden receives.

POSITION BEDS FOR MAXIMUM SUN EXPOSURE

If you live in the northern hemisphere, situate your raised beds from north to south to get the most sun exposure on your plants. Plant the tallest veggies (full size tomatoes, cucumbers, and other vining plants on trellises) on the back (north) side of your garden bed so they don't shade out the smaller plants. Plant smaller crops (peppers, herbs, and greens) along the front (south) side of your garden. Southern hemisphere gardeners will plant in the reverse, orienting your garden bed from south to north, with the tallest plants on the south side and the shortest plants on the north side.

Position your raised beds close to a water source—your garden will thank you.

Guideline #3 Locate Your Raised Bed Close to a Water Source

The bottom line is that consistent watering translates into more tasty treats for you to eat. Do yourself a huge favor and choose a spot for your garden that is close to a water source. The closer the water, the more likely you are to stick to a systematic watering routine, and your garden will thank you. The further you have to walk hauling watering cans, stringing hoses, and setting up sprinklers around your garden, the easier it is for you to neglect watering tasks. A close proximity to a tap (hose bib) or other water source also makes it a breeze to install drip irrigation, which is a huge time and water saver. (See Chapter 4 for important watering information.)

Guideline #4 Choose a Spot That Is Flat, Level, and Drains Well

The ideal site for your raised beds should be flat, level, and have good drainage. Avoid setting up your raised beds in low spots where excess water will sit and won't drain away, or in areas at the bottom of a slope where too much water may flow into your garden area during a rainstorm. Waterlogged plants will not be healthy and will be susceptible to root rot and other diseases. Situating your raised

Grow a raised bed kitchen garden close to your house for quick access to your herbs and veggies.

bed on a flat, level area provides a sturdy, stable location for your veggies to flourish. This will mean there will be less erosion of your precious soil and will prevent your seeds from washing away.

That being said, it is possible to grow a raised bed garden on a hill or sloped area. A significant portion of our garden is on a hilly area of our backyard. Yes, we do have issues that a hill garden faces with erosion, water running downhill, plants blowing over in the wind, and plants falling downhill when they become too heavy. Growing in raised beds on a hill definitely has its challenges, but it can be done as long as special accommodations are made for the slope. (More on building a raised bed on a slope in Chapter 2.)

How Will Your Garden Grow?

You don't have to lay out your garden beds in a row, you might not have that kind of space. Work with the space you have, tucking in a garden bed here and there. It's a safe bet you won't have the absolute perfect spot for your raised bed garden. No need to worry. Choose the spot (or spots) that best meets the four guidelines discussed earlier in this chapter and *go for it*.

The most important thing is to get started—it doesn't have to be perfect. One of the aspects of gardening that I love is that there are many ways to get to the same result. It might not be the most ideal spot in the world, but that's OK. It's *your* spot—and you're going to love it. Make the space that you have work for you and create your own little piece of heaven out of whatever you have to work with!

Now that you've chosen the best spot for your raised beds, let's take the next step down the road and figure out what size of raised beds are a good fit for you.

Call Before You Dig

Before any digging starts make sure that there are *no* underground utility lines in the area. It is important to know exactly where your electricity, phone, gas, water, and sewer lines are located so that there aren't any surprises when building your raised beds. Visit the ClickBeforeYouDig.com website for information about getting a location request in your area. In many cases, a one call (or online request) service is available.

Raised Bed Journey Question #3: *How Big Do I Build My Raised Beds? What's the Best Size and Shape of Raised Bed for Me?*

The next step in planning your raised bed journey is determining what size to build your raised beds. There are several items to take into consideration when determining what size is best for *you* as you create your garden oasis. Ready for some fun? Here's where you have the opportunity to customize your garden beds to make them fit your space, your family's lifestyle, and what you like to eat.

Length and Width

A popular size for raised beds is 4 feet wide × 8 feet long × 10 inches deep (120 × 240 × 25 cm). The length of your raised beds is not as critical as the width. Raised beds that are 4 feet (1.2 m) wide will allow you to reach the middle from at least two sides without having to step on the soil or damage your veggies. If your bed is against a fence, wall, or deck railing and it can only be accessed from one side, making them 2-3 feet (60-90 cm) wide works well. If children or gardeners with limited mobility will be tending to the raised beds (more on this in the next section), having them 2-3 feet (60-90 cm) wide makes for easy access.

The typical raised bed length is 8 feet (2.4 m), but you can make it shorter or longer to fit the space you have. Keep in mind, the longer your raised bed, the further you'll have to walk to get around to the other side and the more cross braces you'll have to attach to the sides to support the weight of the soil.

Whether you're growing in a backyard, patio, driveway, or side yard, it's important to map out and measure the space you've designated for your raised beds so you can determine what size and shape to build your beds. Draw out a rough sketch the good old-fashioned way with paper and pencil (graph paper comes in handy for this) or use a free digital garden planner app if you wish. Keep your garden sketch simple. Down the road a bit on our journey, this garden map will be come in handy when deciding how much material you will need to build your raised beds. (More on building raised beds in Chapter 2.)

Depending on how much space you have, you might build several beds of varying widths, lengths, and shapes. A typical raised bed that is 4 feet × 8 feet (1.2 × 2.4 m) might be perfect for your space. Or you may decide to make your beds 4 feet × 4 feet (1.2 × 1.2 m) in size. And there always is the option to make them various shapes to fit your space. The beauty is that you can customize the size and shape of your beds to use your space to its fullest potential and grow as many veggies as you can. The important thing is to make it fit your space in a way that you enjoy. Where there's a will to grow, there's a way to plant a garden!

Shape

The traditional raised bed shape is a rectangle or a square, but the sky is the limit here! Spice it up—think outside the raised bed square (or rectangle) box to take your raised beds to another level. Put your own creative spin on your garden and make it your own! Get fancy with a hexagon, triangle, circle, tiered, T- or U-shape, or use a combination of shapes laid out in different patterns. For example, arranging stacked bricks or concrete blocks in a circle gives your garden a special touch and adds visual appeal!

Raised beds can be a variety of different shapes and laid out in different patterns.

Consider the physical needs of the gardeners when determining the size of your raised beds.

Depth or Height

The depth or height of raised beds can vary. The depth, length, and width of your raised bed will determine how much soil you need—and soil will be your biggest expense. Shallower beds that are 10–12 inches (25-30 cm) deep won't need as much soil and are less expensive, but water will drain quicker, and they'll dry out faster. Deeper beds that are 1–3 feet (30-90 cm) deep require a larger volume of soil (more expensive), will retain water longer, and can accommodate vegetables with larger root structures. Deeper beds will need cross braces on the sides to support the weight of soil and prevent the sides from bowing out or breaking under the weight. (See the cross-bracing section in Chapter 2.)

So that you don't spend money on soil you don't need, carefully consider how deep to make your beds based on three factors: who's gardening, what you're growing, and where you're growing it.

FACTOR #1: WHO'S GARDENING? WHAT ARE THE NEEDS OF THE GARDENERS?

While a popular height for raised beds is 10–18 inches (25-46 cm), the ideal height for a raised bed is a personal choice and depends on who's gardening. What are the preferences and physical needs of the gardeners? How much bending over or kneeling do you want to do or are able do? Are children gardening along with you? Is anyone tending the raised beds using a wheelchair or walker? Do the gardeners have limited mobility?

Children will need shorter beds, about 1-2 feet (30-60 cm) high so they can reach in to take care of the plants. Taller beds that are 18-36 inches (46-90 cm) high minimize back and knee stress and make it possible for gardeners in wheelchairs or with mobility issues to grow veggies. You might want to have a variety of beds to accommodate the needs of different gardeners who will be enjoying and tending the garden with you.

FACTOR #2: WHAT ARE YOU GROWING?

Crops with *shallow* root structures such as beans, cabbage, lettuce, onions, peas, spinach, and most herbs can grow in beds that are at least 10–12 inches (25-30 cm) deep.

Crops with *medium* root structures such as carrots, chard, cucumbers, eggplant, peppers, and kale will thrive in beds that are at least 1–2 feet (30-60 cm) deep.

Crops with *large* root structures such as pumpkins, squash, sweet potatoes, tomatoes, and watermelon need raised beds that are at least 18-36 inches (46-90 cm) deep. The more space that roots have to breath and take in water and nutrients, the healthier and more productive the plants will be—more for you to harvest from your garden grocery store. Having deeper raised beds increases the stability of these larger plants, and they become less likely to fall over during windy or inclement weather.

FACTOR #3: WHERE ARE YOU GARDENING? WHAT SURFACE IS YOUR RAISED BED SITTING ON?

If your raised beds are sitting on a surface such as wood, stone, or concrete that your plant roots can't penetrate, make your raised beds deep enough to accommodate the needs of the veggies you're growing. If your raised bed has underlying soil that roots can penetrate, adjust the depth of your beds accordingly. However, keep in mind that the underlying soil may be subpar and you will have to compensate with deeper beds so that nutrient-dense soil is available to your plants.

A 12-inch (30 cm) high bed is good for shallow-rooted crops like lettuce, beets, radishes, kohlrabi, cabbage, herbs, peas, and onions.

An 18-inch (46 cm) high bed is good for crops with medium size roots like beans, cucumber, kale, peppers, and eggplant.

A 1- to 3-foot (30-90 cm) high bed is good for deep rooted crops like tomatoes, watermelon, squash, sweet potatoes, and pumpkins.

Raised Bed Journey Question #4: *Do I Need Pathways Between My Raised Beds?*

One of the hardest things for me to do as a gardener is allow for empty space. I want to grow it all and I never have enough space. My tendency is to pack in as much as I can when I plant, forgetting that small baby seedlings grow and need room to breathe—and so do I. I need room to get around the raised beds and access the vegetables, so I don't have to cut a swath through my garden to weed, prune, or harvest. Can you relate to this? Resist the urge to put your garden beds too close together so you can pack more beds in (you know who you are, and I'm right there with you).

Pathways not only give you space to access your veggies, define and give structure to your garden, but they also help provide good air circulation so plants can breathe. Good air flow gets more oxygen to the plants and dries wet leaves faster—which is critical for controlling diseases—which in turn increases the health and productivity of your garden.

I've learned over the years that not only do my plants benefit from a little space, but I do too! Pathways add to the aesthetics of your garden and give you space for loved ones to gather and spend precious moments together. A pretty garden pathway makes for a peaceful coffee walk in the morning to see what's ready to harvest when you are planning for the meals ahead. Why not create a cozy nook with a path-side bench to sit and enjoy watching the pollinators at work? Or after a long day, relax as you stroll down along a path down tomato alley picking the ripest for your dinner. Soak in the beauty that you've created. Gardening is about more than growing vegetables. It's about the experience and enjoying the journey to the fullest along the way.

What's the Perfect Pathway Width?

Two to three feet (60-90 cm) is a good width for pathways between garden beds, but they can be as little as 12 inches (30 cm) if space is limited or be more than four feet (1.2 m) wide if space allows. Customize the space to fit your needs. Allow more path space for large vegetables (such as zucchini squash) to spill over from the garden beds, for easier wheelchair accessibility, or for equipment use such as wheelbarrows or trucks to access the garden beds.

What Material Should I Line My Pathways With?

Options for materials to line your pathways are endless, but generally fall into three categories:

MULCH: wood chips, straw, or shredded leaves.

Advantages: Inexpensive, visually appealing, and it increases soil fertility as it breaks down. My favorite is cedar wood chips which is a natural pest repellent and pretty too!

Disadvantages: It breaks down over time and may have to be reapplied every few years depending on how thick it's applied.

Mulch combined with stepping stones makes it easy to access this raised bed.

HARDSCAPE OR STONE: cement, decomposed granite, pea gravel, flagstone, pavers, or bricks.

Advantages: Visual appealing and long lasting.

Disadvantages: Expensive, heavy to place, reflects more heat in warm climates, and round pea gravel might be hard to travel across for wheelchairs, wheelbarrows, or vehicles.

NATIVE SOIL OR GRASS:

Advantages: Inexpensive, easy to establish, and grass has good drainage.

Disadvantages: May require weeding, is muddy when raining or after watering, grass needs mowing, and can spread weed seeds to garden beds.

The important thing is not what you cover your pathway with, but that you leave a pathway for access, breathability, and growth. Lining your pathway will help smother out weeds or you can keep it simple and have no pathway material at all by placing your raised beds on top of the native soil or grass.

As you wrap up this first leg of your raised bed garden journey, the most important thing to remember is to *enjoy the ride*. Planning, positioning, and deciding how big to make your raised beds and pathways is just the first step. Don't be afraid to take a detour or venture left then right at a "Y" in the road. Experiment, think outside the box. Test out a few garden sizes and shapes. Stake out potential garden spots for your raised bed. Observe how the sunlight falls and stroll down your future pathways. Spend some time in the empty garden dreaming—visualizing it filled with delicious vegetables, bursting with colorful flowers, and buzzing with pollinators.

Surround yourself with beauty, relax, and *take joy* in the process. I promise you, if you slow down a bit, you'll receive inspiration when you least expect it. Your mind will soon be flooded with ideas to create your own custom garden retreat.

Grass requires mowing but is an otherwise care-free choice for pathways.

The ultimate destination as we travel down this road together is not to have a perfect garden. It's to grow our own organic, fresh, tasty veggies—quick and simple—in a way that fits into our busy lives. Enjoy the journey, even if we do take a few detours here and there.

Now that you've taken the first step and have plenty of motivation and inspiration, let's move on to making our dreams a reality and build our new raised beds. Let's get growing the garden of our dreams!

2

Building Your Raised Beds

Do you hear that same nagging voice I did before I built my first raised bed?

The voice that is telling you that building is not your thing, that you don't know a nail from a screw, and persistently asks, "*Are you crazy? What makes you think you can build your own raised beds*?"

You're not alone. I felt the same way when I had a glimmer of a thought to build my first raised bed. I thought I was ready. I had my road map. I scoped out a primo sunny spot in the backyard. I planned out what shape and size each bed would be. I dreamed of the many baskets full of mouth-watering, scrumptious crops that I would grow in my new raised beds—before I even owned a saw, picked up a hammer, or laid out my first piece of wood. But then, nagging doubt crept in, and my venture took a sharp left turn.

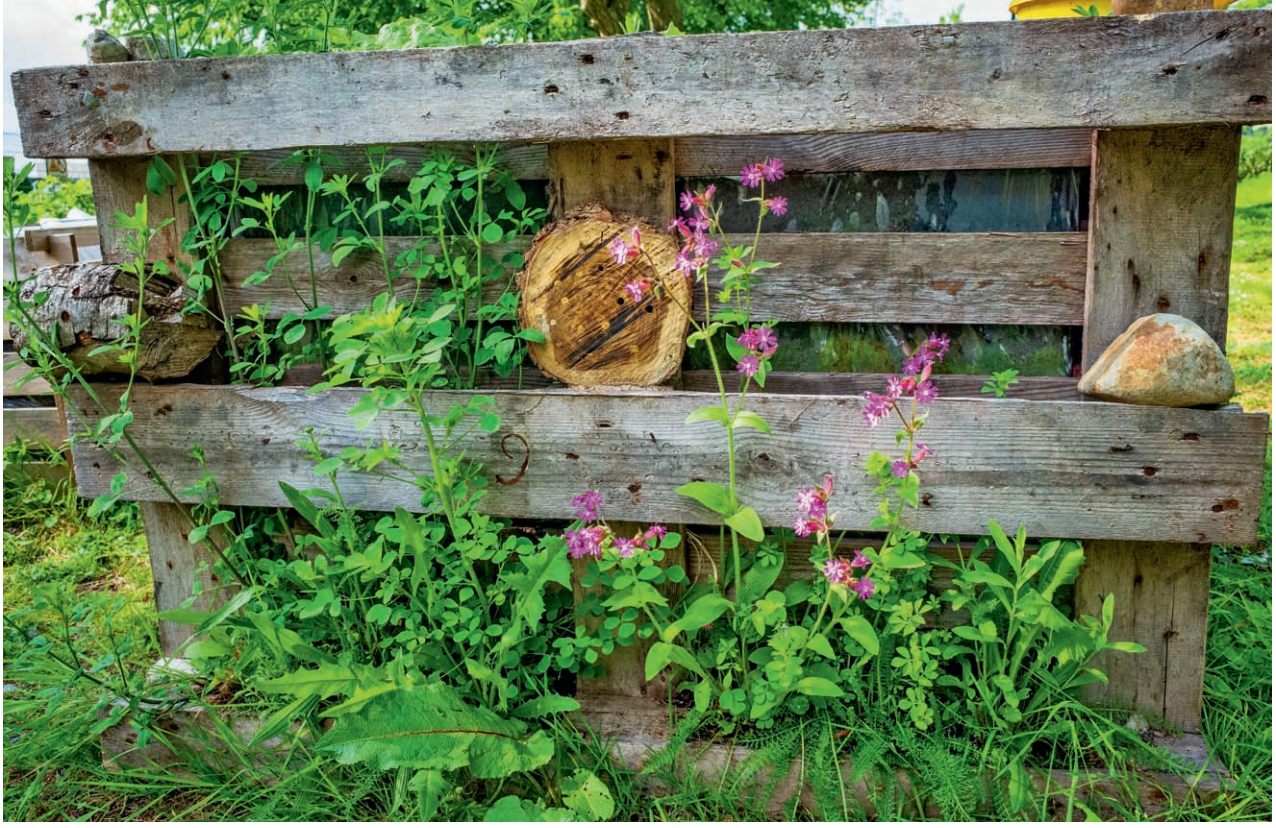
I had remembered that I stumbled my way around using a measuring tape and fell flat on my face whenever I tried to saw or even cut in a straight line using scissors. Back then I was oblivious to the differences between pine, cedar, or redwood, and that screws held wood together better than nails! Those incessant thoughts in my head kept telling me I'd blow my budget on wood, tools, and supplies, and also that my beds would fall apart at the seams before I even planted one tiny seedling. My inner critic plagued me with the question, "*Can I actually make my dream of building my own raised beds a reality or is it doomed to fail before I even pound one nail*?"

And then (as things have a way of going), it happened. Our neighbor was getting rid of some old landscape timbers and offered them to Jerry and me. Despite an utter lack of confidence in our ability to transform old wood into raised bed masterpieces, we lugged the free wood down the street to our backyard and plunged in. Endless YouTube videos, multiple crooked cuts, countless bent nails, and stripped screws later, we proudly placed our new raised beds in our backyard. And guess what? No one but us noticed the imperfections. We learned new skills, gained a ton of confidence, and felt immensely satisfied that *we did it ourselves*! Right away, I busily got to work planting our new garden.

Making the Dream into a Reality

If you're asking yourself, "*Can I actually make the dream of building my own raised beds a reality*?" I can answer with a resounding yes! If I can do it, you can do it too! Be encouraged, this chapter will give you all the know–how you need to build your own raised beds even with no knowledge or no previous construction experience. All you need is the dream to grow your own veggies, a willingness to learn new skills, and you're off to the races. If you don't have the desire, space, or time to build your own, you'll find guidelines here on what to look for when purchasing pre-made beds—so you do have all the tools you need to make your dream of growing your own food in raised beds a reality.

One last thing before we jump in—don't say I didn't warn you. Building and growing veggies in your own raised beds is addictive. Get the ball rolling with the DIY, beginner-friendly designs in this chapter. And after the first delicious tastes of success, you never know where you'll end up. The road to put a few plates of fresher-than-fresh organic food on your table and save on your grocery budget might lead you places you never dreamed of. A fully sustainable garden that provides all the fruits and veggies your family can possibly eat is absolutely possible. Starting a business teaching others how to grow their own food—it happened to me! Providing fresh grown produce for those less fortunate is a huge blessing and so rewarding. Who knows what the future holds? One thing is for certain, the rewards will be plentiful and once you start, you'll never want to stop.



Upcycle wood pallets and add bright colors to make your garden fun.

What Materials Should I Use? How to Choose Materials for Your Raised Beds

Before you build your new raised beds, you'll want to choose the materials to use that will get you first-rate veggie growing results. This can be daunting as depending on your budget and the look and feel you want for your garden, there are endless materials to choose from.

Whether you want to build the traditional basic wood box made from cedar, pine, or composite materials, or go with an eye-catching design made from concrete blocks or stone, this section will cover five of the most common materials that beginners can use to build raised beds. The pros and cons of each material type are included.

Wood

Wood is by far the most common, widely available material for raised beds and is easy for a new raised bed DIY'er to work with. However, don't think that common means humdrum. Wood can be constructed into virtually any size and shape that you like and can be used to create a traditional or contemporary look. A wooden raised bed can run the gamut from a simple pine box that sits on top of a patch of grass, to an upcycled wood pallet painted in fun, vibrant colors to add a touch of whimsey, to an elevated raised bed on legs to save your back and knees. You're limited only by your budget, space, and imagination. So, get ready to roll up your sleeves, learn your way around a drill, and put a little sweat equity into your garden!

Wood is the most common material for raised beds.

TREATED VS. UNTREATED WOOD

Treated wood is infused (commonly referred to as pressure treated) with chemicals of various types to make the wood last longer and be more rot- and insect-resistant. It's possible these chemicals will leach into the soil and plants nearby. Modern pressure-treated wood is safer than it used to be, but if this is a concern for you, stick to wood that is not pressure-treated. Alternatively, a plastic liner can be used on the sides of the raised bed, so soil and plants don't come into contact with the wood. Avoid using railroad ties for raised beds as most are treated with creosote, which is hazardous to your health.

Untreated wood will not last as long as its treated counterpart and will need to be replaced at some point during the life of your raised beds. Some types of untreated wood are naturally rot- and insect-resistant and will last longer than others. Untreated wood will last longer in a dry climate and have a shorter lifespan in a humid, rainy climate.

WHAT'S THE BEST WOOD TO USE AND HOW LONG WILL IT LAST?

Although there are many types of wood that can be used to build raised beds, below are the most commonly used and widely available.

Cedar and Redwood Pros:

- Visually appealing—available in varying shades that will make your garden pop
- Naturally rot-resistant (lasts 10-20 years)
- Insect-resistant (including wood-feeding termites)

Cedar and Redwood Cons:

- Expensive to purchase
- Not available in all locations

Treated wood is infused with chemicals to make it last longer. Stick to untreated wood to avoid possible contamination of your veggies.

Cedar and redwood are beautiful types of wood that last 10-20 years and are naturally rot- and pest-resistant.

Pine and Douglas fir are budget-friendly, but not as long lasting as cedar and redwood.

Pine and Douglas Fir Pros:

- Less expensive than cedar and redwood
- Available at most hardware, lumber, and home improvement stores
- Usually available in lengths that are easy to work with

Pine and Douglas Fir Cons:

- Not naturally rot- or insect- resistant
- Won't last as long as cedar and redwood (only five to seven years)

Concrete Blocks

Concrete blocks are the way to go for a quick, simple, inexpensive, no-nonsense way to build your raised beds that requires no sawing, hammering, or drilling.

Concrete blocks (commonly called "cinder blocks") come in various sizes, but the typical size is 8 × 8 × 16 inches (20 × 20 × 41 cm). They are a perfect material to use for easy and fun customization of your garden. They can be stacked to make the best bed height to save strain on your knees and back, and arranged in a multitude of configurations, shapes, and designs. Concrete blocks can even be painted and decorated to your heart's content. One of my favorite characteristics of concrete blocks is that they are hollow in the middle, adding more growing space and a touch of whimsey.

Pros:

- Extremely durable
- Inexpensive
- No tools required
- Widely available
- Easily stackable
- Can customize stacked blocks into different shapes and sizes
- Hollow, providing additional planting space!

Cons:

- Heavy
- Transporting them may be challenging
- They can overheat the soil

Concrete blocks are a simple, no-nonsense way to get raised beds built quickly—no tools required.

Are concrete blocks safe for growing veggies?

There is an important difference between the composition of modern-day concrete blocks and old-style cinder blocks. Old-style cinder blocks were made from a combination of cement, cinders (sometimes called fly ash), sand or gravel, and water. Most of the manufacturing of cinder blocks was stopped more than 50 years ago. But there is the possibility that fly ash, a byproduct from the coal industry, in old-style cinder blocks may leach into the soil and be taken up by your vegetables.

Modern-day concrete blocks are not made with cinders and are a better option. Some retailers do use the names cinder blocks and concrete blocks interchangeably—if so, ask what the blocks are made from before you purchase them, just to be sure there are no cinders in the blocks.

Concrete blocks can potentially leach lime into your soil, which is not considered harmful, but can affect the pH (acidity or alkalinity) of your soil. A high (alkaline) pH soil can affect plant growth, so consider conducting periodic soil pH tests when planting in a concrete block raised bed.

Composite wood is made from recycled materials, is long lasting, and is an environmentally friendly way to grow.

Galvanized metal stock tanks are a quick way to set up a raised bed and give a contemporary, styled look to your garden.

Composite Wood

Composite wood is not actually wood but is made from various types of recycled materials and is designed to look like wood. It's attractive, long lasting, and environmentally friendly. Composite wood can be used in your raised beds without concern about anything leaching into your soil. While composite wood is extremely durable, it's more costly than traditional wood. Using composite wood is an excellent choice if you don't want to worry about replacing your raised beds every 7-10 years. If you have room in your budget, raised beds made from composite wood is an option you'll want to consider.

Pros:

- Materials are widely available
- Environmentally friendly
- Extremely durable
- Will not rot or attract pests
- Easy to clean
- Can often be purchased as a ready-to-assemble kit

Cons:

- Expensive
- Material is usually thinner than wood
- Can bow or bend, and may need cross braces for support
- Color may fade over time

Galvanized Metal

Galvanized metal is a popular option for raised beds and gives your garden a contemporary, styled look. The process for making galvanized metal generally involves dipping iron or steel in hot zinc so it won't rust when it comes in contact with moisture. There is minimal leaching of the zinc coating into your soil, and galvanized metal is considered safe for growing vegetables.

While building a raised bed out of galvanized metal can be challenging for the beginning DIY'er, there are many options available to purchase a pre-made galvanized metal raised bed made specifically for growing veggies, as well as using stock tanks (traditionally used for feeding and watering livestock) for vegetable growing. Stock tanks are gaining in popularity and are now widely available online and at many brick and mortar retailers, even in urban areas.

Pros:

- Extremely durable
- Stock tanks are widely available in various sizes
- Easy to install
- Pre-fab raised beds are widely available
- Portable

Cons:

- Soil can overheat—metal doesn't always breathe as well as other materials
- Drainage holes need to be added to stock tanks
- DIY assembly can be challenging

Rocks and stones lend a woodsy vibe to your garden. Look for free sources to keep your raised bed budget low.

Rocks and Stone

Rocks, stones, or small boulders can be stacked in various configurations to make beautiful, uniquely shaped raised beds. And rocks and stones are another option for the DIY'er who wants to stay away from tools. The color variations and layers, as well as the moss and lichen that naturally occur on rocks and stones will give your garden a one-of-a-kind look that shimmers and shines—especially when it rains. Large or small, rocks will give your garden a natural look that blends in nicely with the surroundings.

Pros:

- No tools required
- Inexpensive if you have a free source of rocks on your property or live near a friend with a riverbed
- Stackable
- Can be used to customize your raised bed into different shapes and sizes
- Extremely durable and long lasting
- Natural look

Cons:

- Expensive to purchase if there is not a free source nearby
- Heavy to move or rearrange
- Transporting them is challenging, and large rocks may require heavy equipment to move

CaliKim's Road to Raised Bed Success: Path to Success

When building your first raised bed, start simple with the easiest design and least expensive materials. Learn a few skills, build confidence, and get a feel for what works well for you. Then step up to more complicated designs and invest in materials that will last longer.

Start with simple, inexpensive designs. Then work your way up to harder designs and invest in longer lasting materials.

Build or Buy Your Raised Bed?

Using Pre-Made Beds vs. Making Your Own Bed

There are a few things to consider when deciding whether to build your own or purchase pre-made raised beds.

- How much time do you have to build your own beds?
- What's your budget? Pre-made beds can be more expensive.
- Do you have physical limitations that will make a DIY project challenging?
- Do you have space to build your own beds?
- How quickly do you need to get your raised beds set up?

Building your own raised beds has an enormous appeal because it gives you an opportunity to customize your design. Building your own beds are generally budget-friendly and they give you a huge sense of DIY achievement. However, building a raised bed is not for everyone.

If you can't build your own raised bed because you have physical limitations; are short on time; don't have the tools, space, or inclination for a DIY project; or simply are off to a late start in the growing season—there's good news! You can still grow veggies in raised beds, just use a pre-made raised bed kit.

Pre-made raised bed kits are ready-to-assemble beds (or some come pre-assembled) that include pre-cut materials with all the hardware needed for assembly. Some have stackable sides, with sections that slide or snap into place and require just minimal attaching or drilling of the components. Shop around for prefab raised beds with interesting features to give your garden a unique appeal. You can keep it simple and small by using a box or rectangular shape or you can go big and get fancy with raised bed kits that have built-in composters, seating areas, or tiers.

Pre-made raised bed kits are a good option for those who would find building a raised bed from scratch challenging or are just short on time.

Do your research when deciding which pre-made raised bed to purchase. Decide what type of materials you'd like for your pre-made bed and what will fit in your space. Ask around and get recommendations from other gardeners, post questions on online gardening forums, and check out what's available at your local garden center.

Pre-made Beds Pros:

- Materials and hardware are included
- Minimal assembly
- Easy for novice or those with physical limitations to install
- Saves time during set up
- May include a bottom, making it easy to use for patio and small space gardeners

Pre-made Beds Cons:

- Sometimes more expensive than DIY raised beds
- May not be as easy to customize as DIY raised beds

Fabric raised beds

Fabric raised beds are my favorite type of pre-made beds for two reasons—convenience and air pruning.

Convenience

Quick to set up, fabric beds require minimal to no assembly. They are much less expensive than other prefab raised beds. Fabric beds are ideal when you want to get your garden set up pronto and they are perfect for small spaces. Simply unfold the fabric, fill with soil, plant your seeds, and you have an instant garden. If need be, empty out the soil and fold the fabric bed back up for easy storage during the off-season. When choosing a fabric raised bed, make sure the fabric is durable and of high quality so it'll last for many years. Fabric beds come in many different colors, shapes, and sizes to fit whatever space you have available to grow in.

Pop-up fabric raised beds are one of the quickest, simplest, and most inexpensive methods to grow veggies.

Air pruning (more roots = more fresh veggies)

Air pruning makes fabric raised beds a particularly effective way to grow your own food. This phenomenon occurs when (a) the plant roots are exposed to oxygen through the many holes in the fabric and (b) there is a lack of excess moisture, due to the efficient way the water drains through the fabric.

When these two conditions are present, the tips of the roots naturally prune off and develop many new fibrous branching roots that have the ability to absorb air, moisture, and nutrients. Plants grown in fabric raised beds or fabric containers won't get root bound (a circling or twisting of roots that restrict growth and uptake of water and nutrients). More veggies will grow in a smaller space in fabric beds because root structures are more extensive and healthy—supporting additional growth. More roots = more fruit (or veggies). My favorite fabric raised beds are made by Smart Pot (smartpots.com). They are durable, lasting for five or more years, and very budget-friendly.

Plants won't get root bound in fabric raised beds because their roots will be air pruned. When roots contact the air at the sides of fabric raised beds, they react by forming lots of fibrous roots—more roots that will absorb moisture and nutrient producing more veggies for you to eat.

DIY Quick, Simple and Inexpensive Raised Bed Plans

No Construction Experience Required

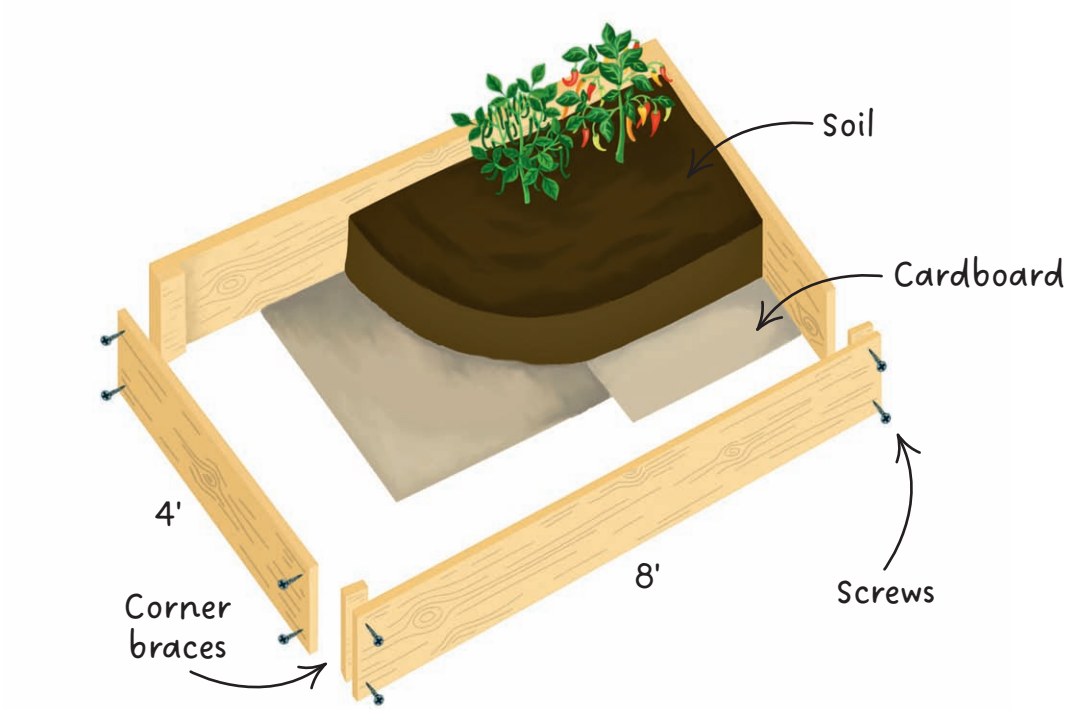
If the thought of a saw, hammer, nails, and a measuring tape scares the living daylights out of you, I feel your pain! Carpentry skills are *not* my strength. Rest assured, I like to keep it very basic when it comes to building garden structures and raised beds are no exception.

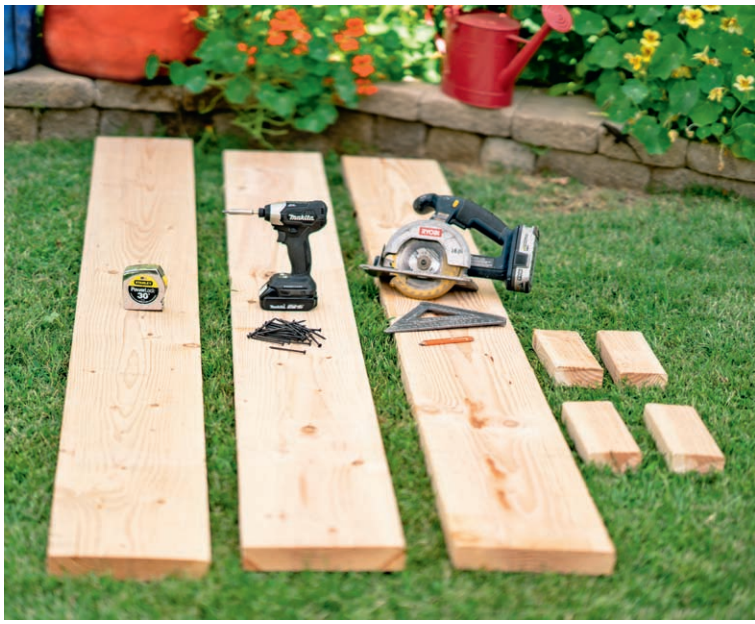
This section will provide you with five step-by-step, quick, simple, and inexpensive raised bed designs made with various easy-to-find materials—*no construction experience required* (whew!). Choose one or two and you'll be well on the way to building and planting your garden beds—in short order!

Spice up these basic designs with bright paint colors and whimsical garden décor. Use them as a jumping off point and let your creativity flow. Don't be afraid to experiment with different types of wood or use a combination of the basic designs to add interest, texture and *fun* to your garden. Most important, enjoy the process and don't get stressed—*you got this*! Take delight in creating a relaxing, peaceful space that brings joy to your heart and promises to give you countless precious memories as you grow veggies with your loved ones.

These designs include suggested sizes, however, they can all be easily customized to make them larger or smaller, or you can use different materials to fit your specific needs, preferences, and garden space.

DESIGN #1: The Keep It Simple Wood Raised Bed





It doesn't get any more basic than a simple raised bed made out of wood. It's inexpensive to make, simple (wood, hammer, and nails), yet sturdy, will hold up for years, and won't break the bank. This design is a perfect starting point for a novice raised bed gardener. It is small enough for a patio or balcony and just the right size to grow a season's worth of vegetables for a couple of people or small family. This project works best if you enlist the help of a garden buddy—one of the rewards of gardening is sharing the fun!

Supplies needed to build a Keep It Simple Wood Raised Bed

This design is for a raised bed that is 4 feet wide × 8 feet long × 10 inches high (1.2 × 2.4 × 0.25 m). Just adjust the size to fit your space and add cross braces if you're building a bed longer than 8 feet (2.4 m). (See page 53 for the cross bracing section.)

- Three planks of wood that are 8 feet long × 2 inches thick × 10 inches high (240 × 5 × 25 cm) are needed for the sides of the raised bed. One plank should be cut in half (into a 4-foot (1.2 m) length) for the short sides of the raised bed. Many staff at hardware stores will cut wood for you if you don't want to cut it yourself. You can use untreated pine or Douglas fir, which is inexpensive to buy. Cedar and redwood will also work well and are long lasting, but they are more expensive.
- Four pieces of lumber that are 10-inch (25 cm) lengths from a 2 inch × 4 inch (2 × 4) piece of lumber that will be the corner braces to stabilize the sides of the raised bed.
- Sixteen 3-inch (7.6 cm) deck screws.

Tools:

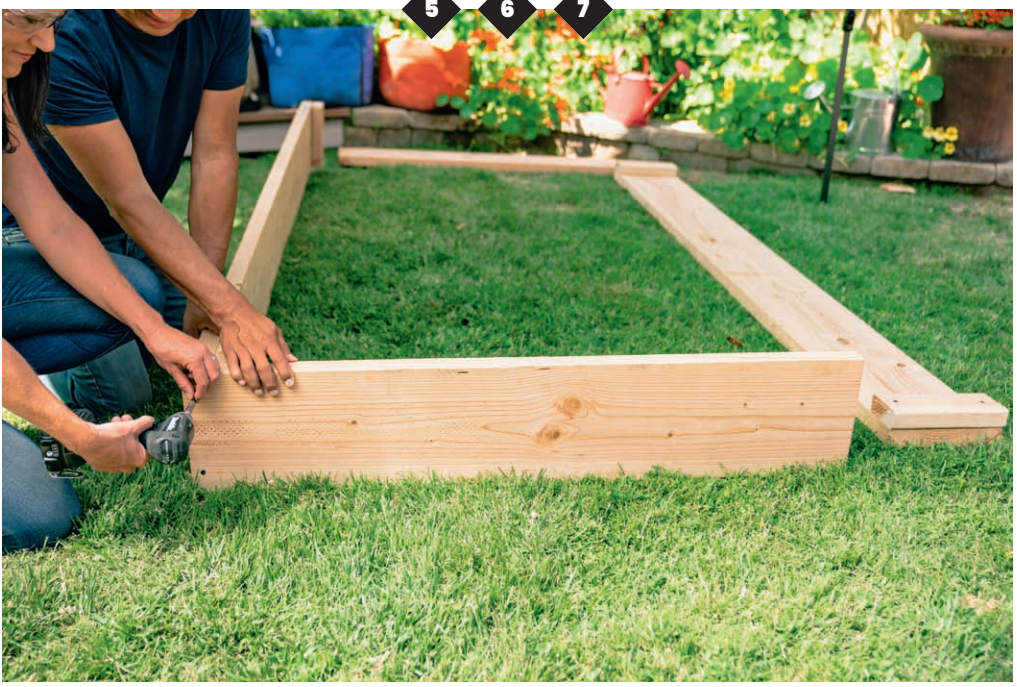
- Drill with a Phillips head screwdriver bit.
- A drill bit slightly thinner than the deck screws, to pre-drill the holes.

If you're cutting the wood:

- Saw
- Tape measure
- Carpenter's square
- Pencil

STEP 1: Attach four 10-inch (25 cm) corner braces to two 8-foot (2.4 m) planks

1. Place a 10-inch (25 cm) corner brace on top of one of the 8-foot (2.4 m) planks, flush with the end.
2. Hold the corner brace in place on the plank and pre-drill two holes, using the smaller bit, 1 inch (2.5 cm) down from the top and bottom. The pre-drilled holes are made so the wood doesn't split when inserting the screws.
3. Attach the corner brace to the 8-foot (2.4 m) plank using two 3-inch (7.6 cm) deck screws.
4. Repeat this process for the other end of the same 8-foot (2.4 m) plank and again two more times with the second 8-foot (2.4 m) plank.



STEP 2: Attach the sides

5. With a friend's help, line up the end of one 8-foot (2.4 m) plank (with the corner braces attached) at a 90-degree angle with the end of a 4-foot (1.2 m) plank (without the corner brace attached). The 4-foot plank should be on the outside of the corner brace.
6. Pre-drill holes through the 4-foot (1.2 m) plank into the top and bottom of the corner brace attached to the 8-foot (2.4 m) plank. Attach the 4-foot plank to the corner brace with two deck screws.
7. Repeat this process with the other 8-foot (2.4 m) and 4-foot (1.2 m) planks, and then again twice more to connect all four sides of the garden bed together.

   For deeper beds, stack two wood raised beds to your desired height and cut corner braces and cross braces to the same height.
8. After you have attached the sides and lined your bed with cardboard (to smother grass and weeds), your Keep It Simple Raised Bed is ready to fill with soil and be planted.

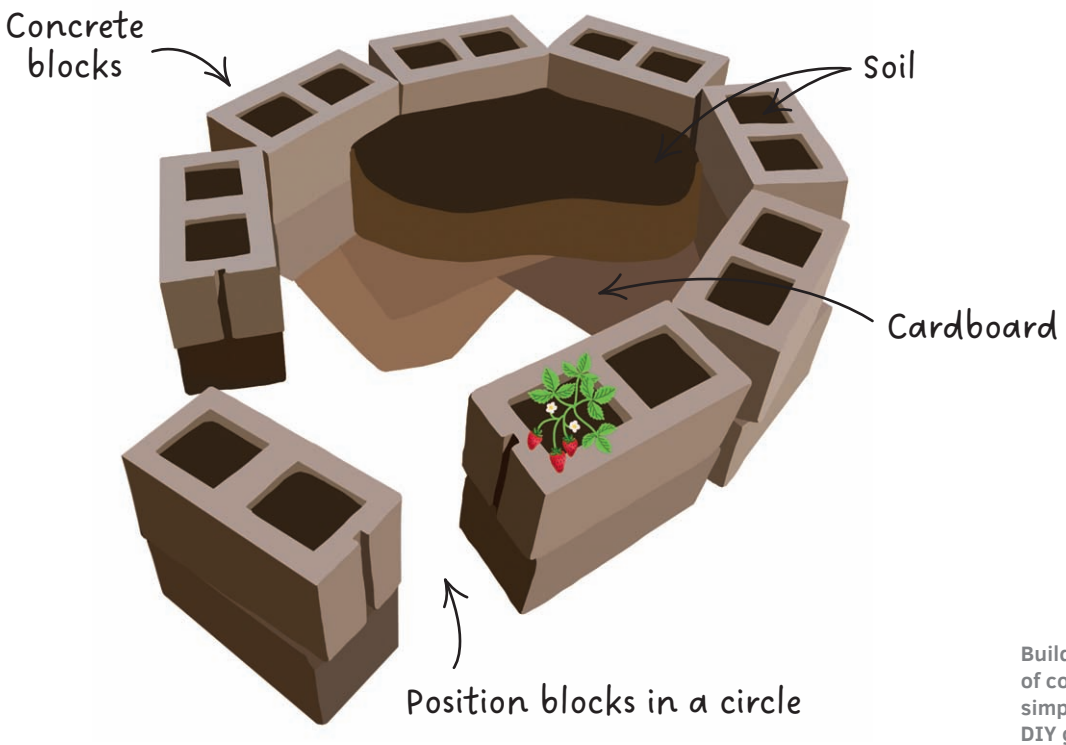
   You did it—I'm so proud of you! Your first raised bed is ready for planting a garden grocery store of your very own. You are going to *love* it!

DESIGN #2: The Circle Concrete Block Raised Bed

If you don't know your way around a measuring tape, hammer, and saw, then you'll love this design using concrete blocks. All it involves is a little bit of sweat equity and a lot of muscle. Concrete blocks, made for stacking, are perfect for a beginner who wants to make a garden in a hurry and have one that will last for years. Blocks can be configured into a traditional square or rectangle shape for a raised bed or even creatively shaped into a circle, triangle, or hexagon. Stack them one, two, or three levels high, or stagger them for a unique look. The sky's the limit with the flexibility of a concrete block raised bed. The outside of the concrete blocks can even be painted or decorated with glued on colored stones. Put your kids or artistic friends to work to design a unique garden masterpiece for your concrete raised bed garden. Get creative and use your imagination to make it reflect your uniqueness.

Concrete blocks have the added bonus of being hollow—providing an extra pocket of planting space. Fill the hollow centers with soil and start growing herbs, flowers, or small vegetables around the edges of your raised bed—boosting the visual appeal.

For this design no tools are required! We're going to use concrete blocks to build a circular raised garden bed that is 4 feet (1.2 m) in diameter—providing plenty of growing space that can be easily accessed from all sides. This design is well suited for a small space, deck, or patio, whether the base is concrete, grass, stone, or wood. And it is easy to adjust the diameter of the bed to fit your space.



Building a raised bed out of concrete blocks is the simplest way to build a DIY garden.

Supplies needed to build the Circle Concrete Block Raised Bed:

- 16 concrete blocks with hollow centers that are 16 inch × 3 inch × 3 inch (41 × 7.6 × 7.6 cm).
- Rake (optional).

STEP 1: Clear and level the area

1. Clear the area and level with a rake (if needed).

STEP 2: Lay out the blocks

2. Lay out the concrete blocks with their corners touching to form a circle approximately 4 foot (1.2 m) in diameter.
3. Place a second layer of concrete blocks on top of the first layer lining up the hollow centers. If desired, place a third layer of concrete blocks on top of the second layer. To avoid the blocks toppling over, it is recommended to use mortar between the layers if beds are built more than two blocks high.

STEP 3: Line with cardboard

4. Line the inside of the raised bed with flattened cardboard boxes completely covering the ground underneath. This limits weeds from growing up through your raised bed. If your raised bed is placed on concrete, stone, or wood where there are no weeds underneath, skip this step.

STEP 4: Fill the bed

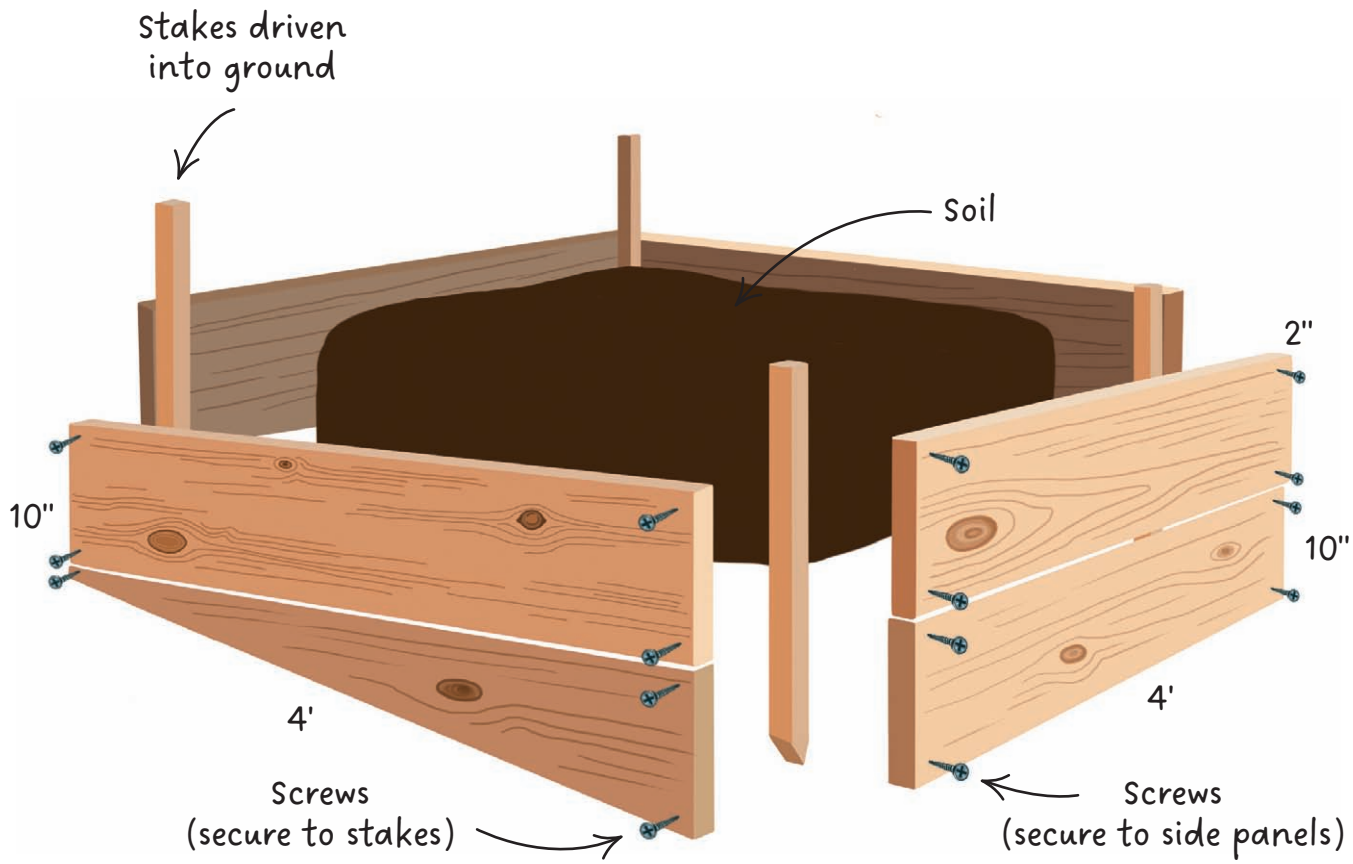
5. As you fill your new concrete block raised bed (more on this in Chapter 3) fill the hollow portions of the blocks with soil and plant in small edging plants such as herbs, flowers, or greens.

DESIGN #3: The Build-It-In-Place Raised Bed for a Slope

This design is a variation of the Keep It Simple Raised Wood Bed but uses heavy-duty, wooden, garden stakes (with pointed ends) for corner braces. This raised bed is perfect for a hill and is partially built in place on the sloped site. After building a basic wood raised bed, it's set into place on the slope. Additional wood planks are cut at an angle and attached to the bed to accommodate the sloped area. Pointed wood garden stakes are driven into the ground on your sloped area and act as corner braces for your raised bed.

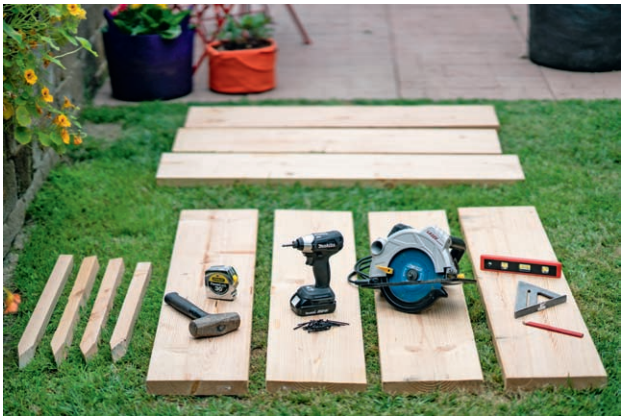
Heavy-duty pointed wooden stakes are available in 1-foot to 6-foot (0.3-1.8 m) lengths from most hardware or home improvement stores making it easy to customize your raised bed to the height that will accommodate your sloped area.

For a budget-friendly bed use Douglas fir or pine planks or spend the extra cash to make it sturdier and longer lasting by using cedar or redwood planks. This design requires an underlying surface such as grass or soil that the stakes can be driven into. This bed is not a good fit for a concrete or stone surface. Since the stakes are driven into the ground, this design has the added advantage of keeping the bed in place, which is important when building a raised bed on a sloped area. (See more on growing on a slope below).



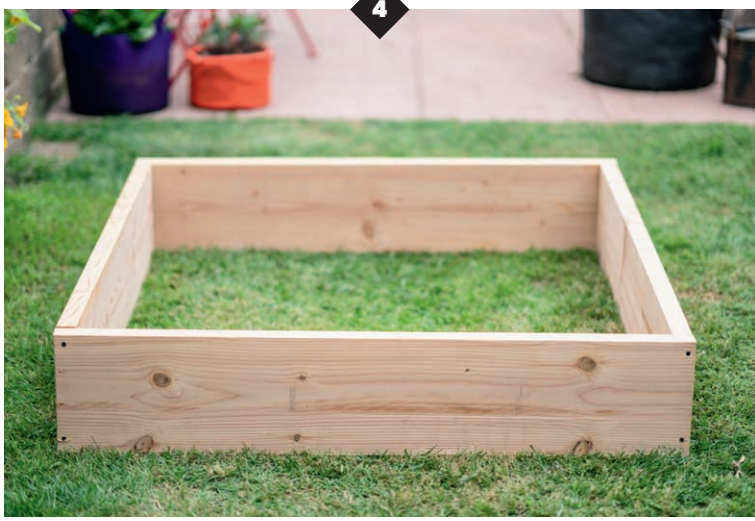
Supplies needed to build a 4-feet × 4-feet (1.2 × 1.2 m) Build-It-In-Place Raised Bed for a Slope (depth will vary depending on the slope):

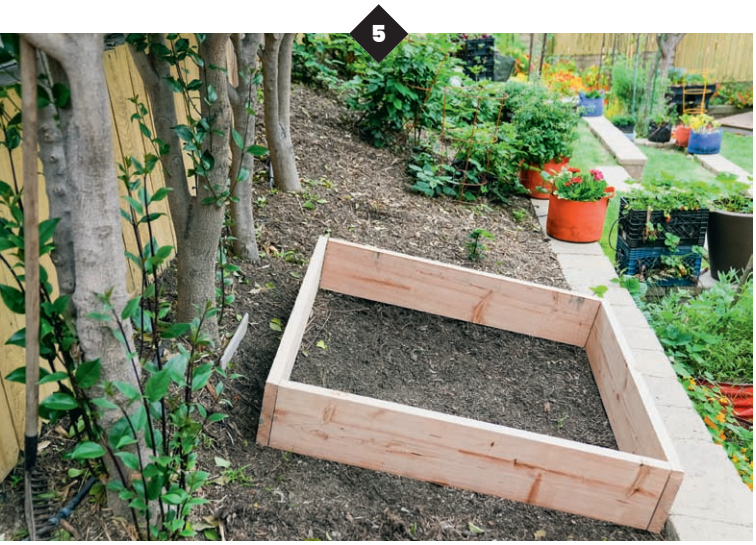
- Four planks of wood for the upper sides of the bed, each 4 feet long × 2 inches thick × 10 inches wide (120 × 5 × 25 cm). Ask the staff at the hardware store or lumber yard to cut them for you or cut them yourself at home.
- Three planks of wood for the lower sides of the bed, each 4 feet long × 2 inches thick × 10 inches wide (120 × 5 × 25 cm). To accommodate the slope, they will be cut on an angle later.
- For the corner braces, four 24-inch (60 cm) tall, heavy-duty, pointed, wooden garden stakes. These are usually found in the garden section of your local hardware or home improvement store rather than in the lumber section.
- 3-inch (7.6 cm) deck screws.
- Extra wood for cross braces when building larger raised beds. Adjust the size of your raised bed to fit your space, adding cross braces if you're building a bed longer than 8 feet (2.4 m). (See page 53 for information on attaching the cross bracing.)



Tools:

- Drill with a Phillips head screwdriver bit
- A drill bit slightly thinner than the deck screws, to pre-drill the holes
- Level
- Saw
- Heavy-duty hammer
- Measuring tape
- Carpenter's square
- Pencil





STEP 1: Attach the sides

1. With a friend's help, place one 4-foot (1.2 m) plank on a flat surface at a 90-degree angle to another 4-foot (1.2 m) plank. This will form the first corner of the raised bed. Hold in place.
2. Pre-drill holes 1 inch (2.5 cm) down from the top and bottom along the 10-inch (25 cm) wide edge of the side plank. This is done to prevent the wood from splitting when attaching the screws.
3. Attach the two planks of wood with two deck screws through the pre-drilled holes.
4. Repeat this process with two other 4-foot (1.2 m) planks to form the other half of the bed. Then repeat twice more to connect all four sides of the garden bed.

STEP 2: Place the raised bed on the slope, level up with blocks

5. Set the raised bed box on the sloped area. Place concrete blocks or blocks of wood underneath it to raise the lowest part of the box up to be even with the highest point of the ground under the bed.
6. Place a level on the edge of the bed box and adjust the height of the box until the middle bubble lines up level. Remember, we're not striving for perfection here. Get it as level as you can, but don't worry if it's a little bit off.

7

STEP 3: Corner stakes

7. At each inside corner of the bed, drive a stake into the ground with a heavy-duty hammer until it is flush with the top and sides. It's okay if the stakes aren't completely flush with the top of the bed (as pictured here with the stakes at the back of the bed).
8. Pre-drill holes 1 inch (2.5 cm) from the end of each side plank to attach the corner stakes to the bed box. Use deck screws to hold the stakes to the side of the bed.
9. Remove the blocks.

8

STEP 4: Fill the gap

10. Place a plank of wood (wide enough to fill the gap under the bed box) along the outside of one side of the raised bed. Draw an angled line where you'll need to cut the plank that will be used to fill the gap.
11. Once the plank is cut, pre-drill holes and attach it to the corner stakes to fill in the bottom gap. Screw the gap plank to the corner stakes.
12. If cutting or tapering a wood plank is not an option for you, an alternative method to fill the gap is to use a sledgehammer to pound the wood plank into place inside the bed, then attach it with screws. The underlying soil must be fairly soft for this method to work.

10

10

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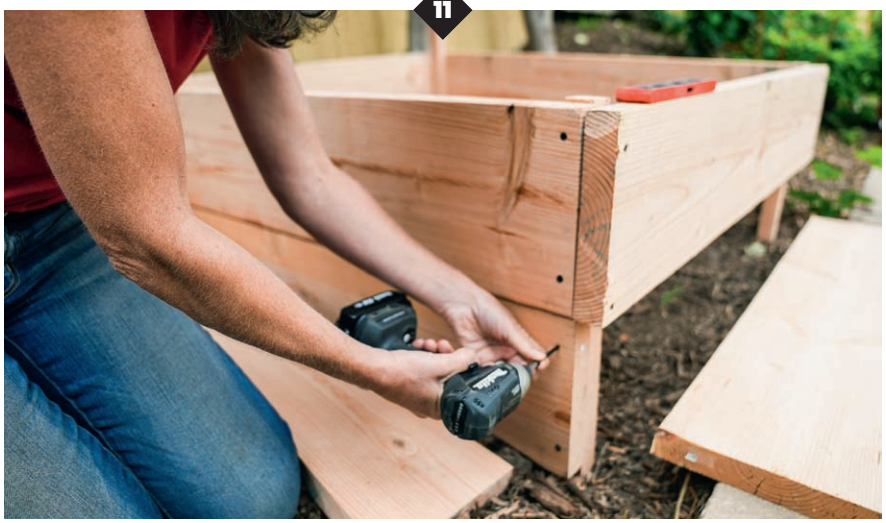
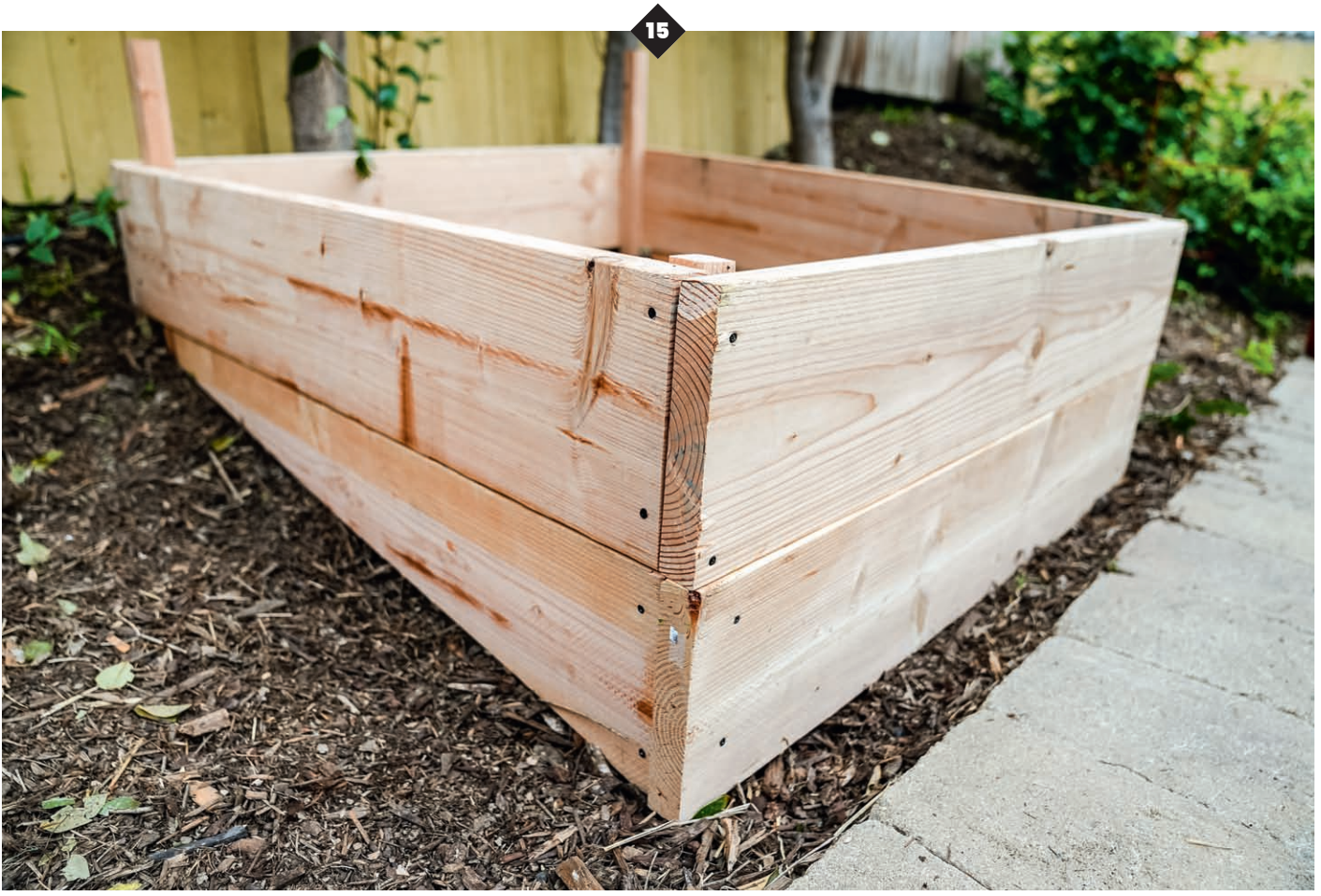


13. Repeat to fill the gaps on the other two sides of the bed, as needed to accommodate the slope.
14. An alternative method to using wood planks is to fill the bottom gap with bricks, stones, or flagstones. Line the bottom and sides of the bed with porous landscape fabric to keep soil in.
15. Way to go! Build in place raised bed on a slope is now ready to fill with soil and plant.

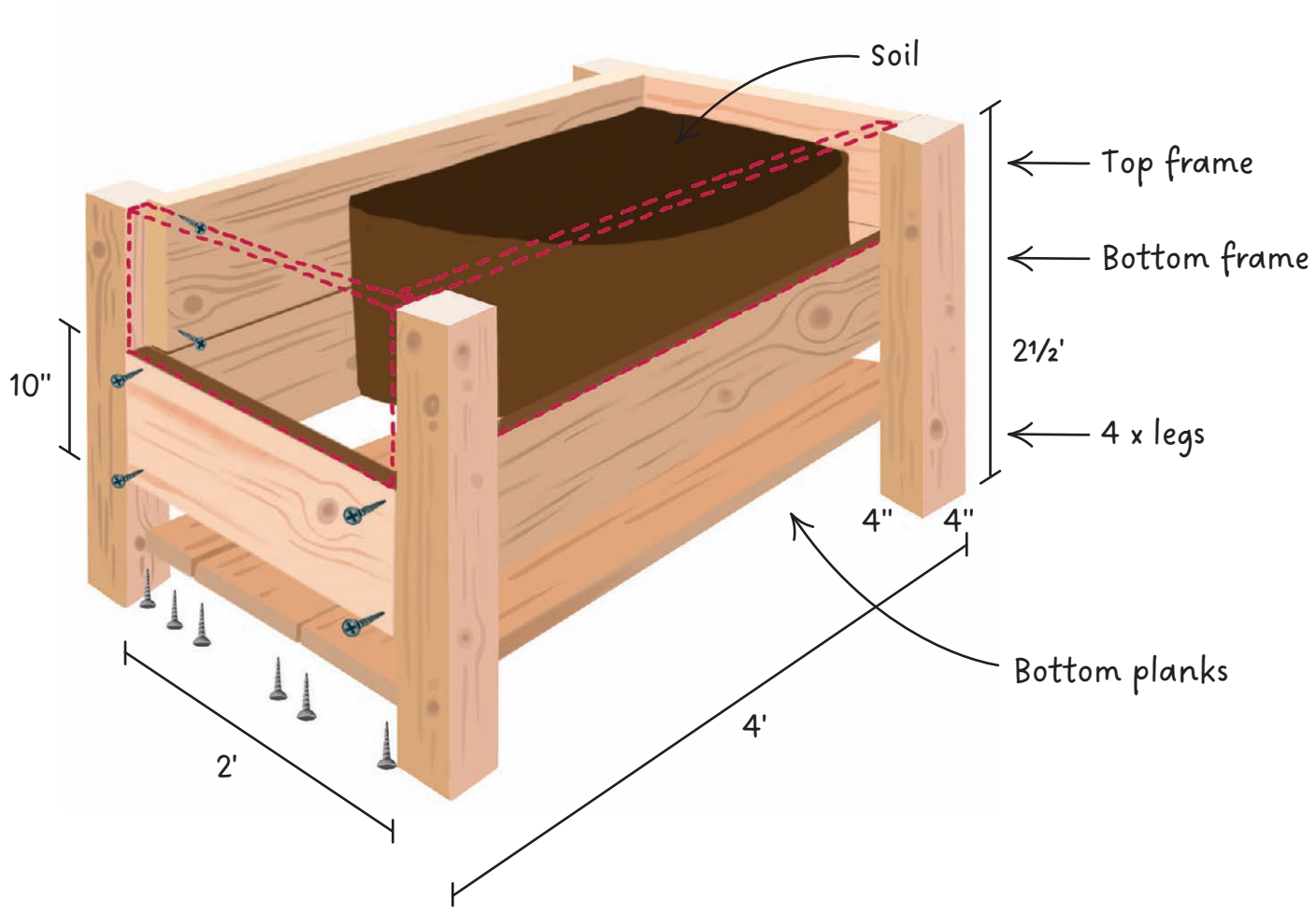


DESIGN #4: The Mini Elevated Raised Bed

This waist-high raised bed design is perfect for a gardener who wants convenience and to minimize back strain from bending over. This is also a fun DIY project to do with your kiddos as it can be easily customized to kid height by making the legs shorter. Give your little gardeners ownership of their raised garden by encouraging them to decorate the outside with their own flair and help them plant kid-friendly veggies. Your child will be thrilled to have their own mini raised bed, and they're much more likely to eat the veggies they grow themselves!

This is also a favorite for gardeners who have limited space. Its compact size will fit perfectly against a deck railing, fence, or in a small spot of sun on a side yard. You really can't go wrong with this project—it can be made in a day with minimal cost and tons of fun!

This design is for a raised bed measuring 2 feet × 4 feet × 20 inches deep (60 × 120 × 50 cm). Customize it to make it whatever size you like! Keep in mind the larger you go, the more soil you need, the heavier it will be, and the thicker the lumber you'll need on the bottom to hold the weight. For this reason, I recommend not going larger than 4 feet × 4 feet (1.2 × 1.2 m).



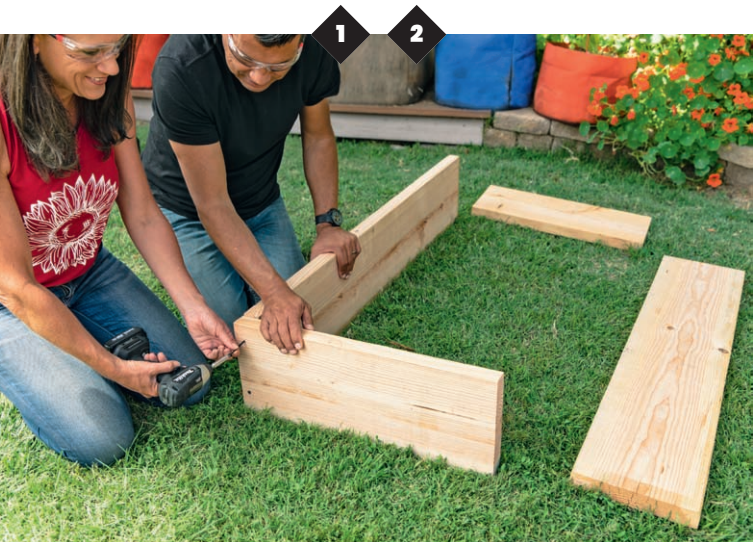
Supplies needed for the Mini Elevated Raised Bed:

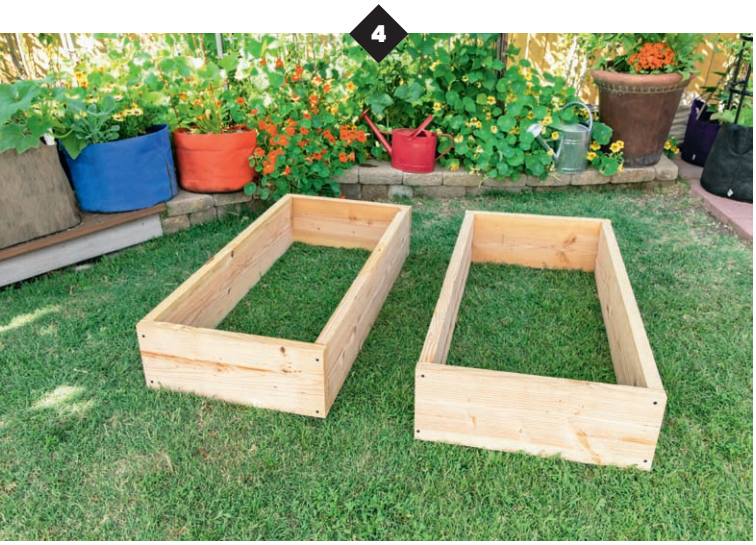
Adjust the size of your Mini Elevated Raised Bed to fit your space and add cross braces if you're building a bed longer than 8 feet (2.4 m). See the cross bracing section on page 53.

- Four planks of wood are needed for the long sides that are 4 feet × 2 inches × 10 inches (120 × 5 × 25 cm). Staff at many hardware or home improvement stores will cut the wood for you or cut it yourself at home. Wood choices vary with untreated pine or Douglas fir being the most inexpensive. Cedar and redwood will work well and are long lasting but are more expensive lumber to purchase.
- Four planks are needed for the short sides that are 2 feet × 2 inches × 10 inches (60 × 5 × 25 cm).
- Two planks of wood will be used for the bottom that are 51 inches × 2 inches × 10 inches (130 × 5 × 25 cm).
- One piece of wood is needed for the bottom that is 51 inches × 2 inches × 4 inches (130 × 5 × 10 cm).
- One fence post that is 4 inches × 4 inches × 10 feet (10 × 10 × 305 cm) is needed for the legs. Cut it into four lengths that are 2½ feet (76 cm) long.
- 3-inch (7.6 cm) deck screws.
- 4-inch (10 cm) hex head wood screws
- Landscape fabric

Tools:

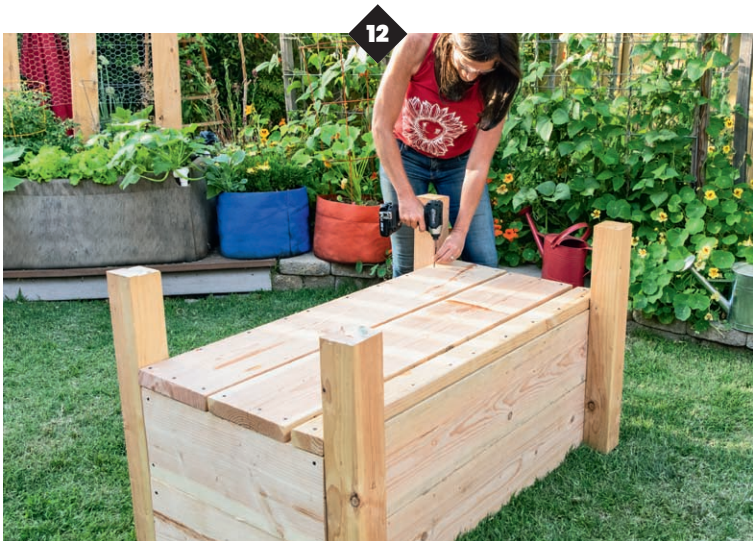
- Drill with a Phillips head screwdriver bit
- A drill bit slightly thinner than the deck screws, to pre-drill the holes
- Hex head drill bit
- ⅜ inch (9.5 mm) drill bit
- Saw (if you are cutting the wood)
- Staple gun





STEP 1: Build the two levels of the raised bed

1. With a friend's help, place one of the 4-foot (1.2 m) planks on a flat surface at a 90-degree angle with one of the 2-foot (60 cm) planks. This will form the first side of the raised bed.
2. Hold the two wood pieces in place and pre-drill two holes 1 inch (2.5 cm) from the top and bottom of the corner using a slightly thinner drill bit than you'll be using for the screws. This is done to prevent the wood from splitting when you are attaching it with the screws.
3. Attach the two planks of wood together with two screws using your pre-drilled holes.
4. Repeat this process with the two other planks (one 4-foot (1.2 m) long and one 2-foot (60 cm) long) to form the second side. Then pre-drill two additional holes at each of the two remaining corners, screw together, and connect all four sides of the garden bed together.
5. Repeat the above steps for the second level of the bed.



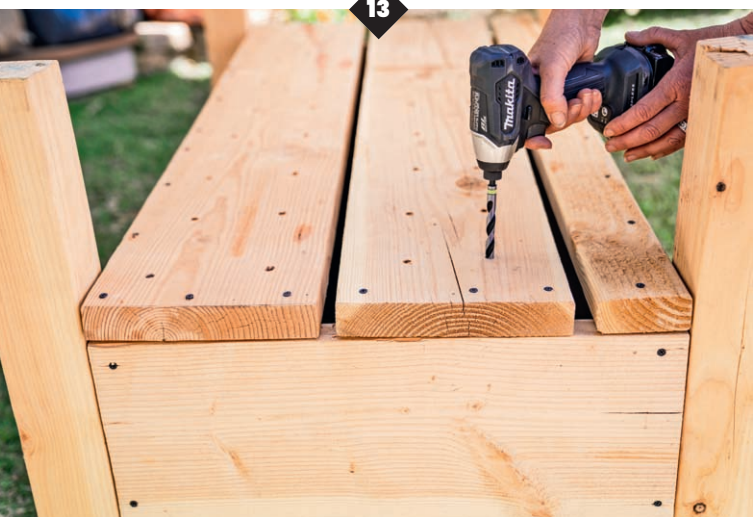
STEP 2: Attach the legs

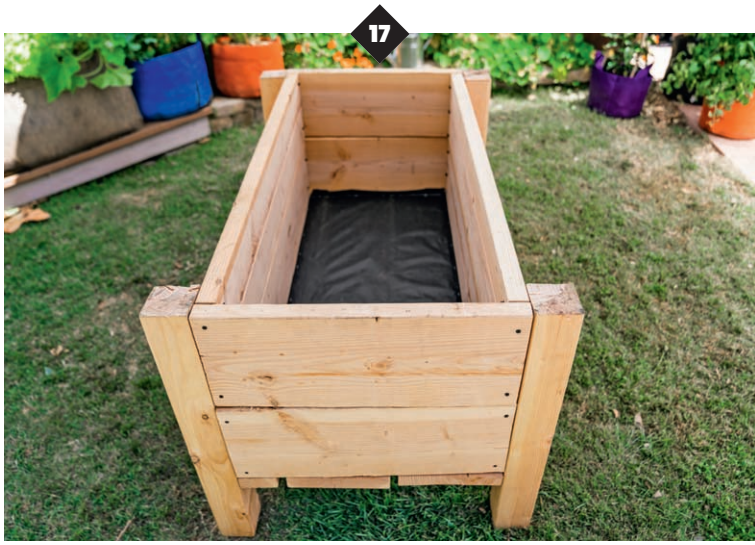
6. Stack the two layers of the raised bed on a level surface.
7. Place a leg on each corner on the outside of the bed.
8. From the inside of the box, pre-drill six holes about 3 inches (7.6 cm) apart.
9. Attach a leg to each corner, using 4-inch (10 cm) hex head screws, screwing them on from the inside of the box. Place the screws about 3 inches (7.6 cm) apart. A total of six 4-inch (10 cm) hex head screws will attach each leg.

   Note: At this point, you're building the bed upside down.

STEP 3: Attach the bottom

10. Place the two planks that are 51 inches × 2 inches × 10 inches (130 × 5 × 25 cm) and the one plank that is 51 inches × 2 inches × 4 inches (130 × 5 × 10 cm) on top of the inverted raised bed, in between the four legs. Evenly space the planks so they line up with the outside edges of the raised bed. There will be small gaps between each plank.
11. Pre-drill small holes every 3 inches (7.5 cm) around the outer edge of the bed.
12. Attach the bottom planks with 4-inch (10 cm) hex head screws spaced about 3 inches (7.5 cm) apart around the outside edges of the bed.





STEP 4: Drill drainage holes in bottom

13. Using a ⅜ inch (9.5 mm) drill bit, drill holes for drainage in the bottom of the bed, spacing the holes every 2-3 inches (5-7 cm).

STEP 5: Line the bottom with landscape fabric

14. Flip the bed over so it's standing on the four legs.
15. Cut a piece of landscape fabric to fit the bottom of the bed. It's okay to go up the sides partway with the fabric. The landscape fabric prevents the soil from falling between the gaps in the wood in the bottom of the bed.
16. Staple the fabric to the sides and bottom of the bed.
17. The Mini Elevated Raised Bed is ready to fill with soil and plant

Cross Bracing

When growing in raised beds that are taller than 2 feet (60 cm) or longer than 8 feet (2.4 m), use cross braces to support the sides of the bed and prevent them from bowing out under the weight of the soil. Place cross braces in beds that are longer than 4 feet (1.2 m) and if the beds are built with materials such as composite that are thinner than 1 inch (2.5 cm). Cross braces should be attached during the construction of the bed for best results. Screw cross braces to the sides of the bed every 2-3 feet (60-90 cm) using 2 × 4 planks of wood cut into lengths to match the height of your bed. The cross braces can either be attached on the inside of the bed or to the outside—creating a fun design element for your bed.

Use cross braces to reinforce the sides of raised beds that are longer than 8 feet (2.4 m), or if the raised bed material is thinner than 1 inch (2.5 cm).

Building Raised Beds on a Slope

Ideally, raised beds should be located on a level surface for even water distribution throughout your bed. Otherwise, the water flows to the lowest point, making the low end too wet and the high end too dry.

However, what happens if you don't have a perfectly level spot for your garden? Rest assured, you can still grow in raised beds—so, don't be afraid to use a sloped or a hilly area for your garden.

Hill gardens definitely have their own set of unique challenges. When building raised beds on a slope, the beds need be manually leveled to accommodate the grade and they may need additional support or cross bracing to keep the soil and plants from falling downhill.

Option #1: Build Out the Entire Slope

One option for growing in raised beds on a hill or sloped area is to build out the entire slope with raised beds, making them part of the landscape. If you've watched our CaliKim Garden & Home YouTube videos, you know that the main portion of our garden is on a hill. When we first moved to our house, our backyard was virtually inaccessible and unusable for garden space due to the steepness of the slope. But I wasn't going to let that stop me from having a garden! We used the hill to our advantage and built a beautiful, terraced garden.

To do this, we dug four level terraces into the side of our entire hill and built retaining wall raised beds that spanned the entire width of it—right into the hill—giving us a ton of growing space. To safely access the raised beds and to make it to the bottom of the hill, we built a series of meandering stone steps carved into the hill.

However, this wasn't built in a weekend! We used heavy equipment to cut out the initial rough terraces. And then it took several months of hand digging and lugging heavy landscape timbers to finish the project.

A huge advantage of building out the entire slope is that we utilized every possible square inch of the hill for a garden—much more than if we had a few raised beds strategically placed on the slope. Another advantage is that since the retaining wall raised beds were built into the slope, and span the entire hill, we only needed to build two sides of the beds. The native soil and a stone wall make up the other two sides, thus saving us on materials.

If you don't have a perfectly level area, you can still grow veggies. Beds will need to be manually leveled to accommodate the slope.

We built raised beds spanning our hill and now have tons of veggie growing space.

Although this method was a good option for us, and we love the unique, visual appeal it gives our garden, I would not recommend this for beginning raised bed gardeners. It's a labor-intensive process (it took us weeks), may need heavy equipment (we did most of it by hand), and requires heavy duty, durable material to hold back the weight of the soil. We used repurposed landscape timbers and large interlocking stone blocks for our terraced raised bed garden.

Option #2: Build a Freestanding Raised Bed on the Slope

The easiest way to level beds on a slope is to build a freestanding raised bed, such as the Build-It-In-Place Raised Bed (see Design #3 on page 42) and build accommodations for the slope right into place as you go.

Challenges to Deal with as You Build Your Beds

Way to go! You've built one or two raised beds—maybe even took on the challenge of building a bed on a sloped area—and are well on your way to making your raised bed garden grocery store a reality.

Keeping it real, all is not always rosy now that you have built your beds. There might be problems you will have to deal with down the line. You might already be thinking about potential problems and asking yourself the following questions. Will weeds grow through my beds? Will the water draining from my raised bed stain my concrete patio? When I water my raised beds, will it damage my wood deck? I have a gopher digging in my yard, will he (or she) eat my garden? What do I do about munching deer, nibbling rabbits, Fido digging for bones, and Felix relieving herself on my veggies?

Planning for these issues up front and putting in solutions as you build your beds will save you headaches later on down the line. In this section, I will share how to deal with some of these common issues with two solutions: *lining and fencing*. I'll help you decide when to line (or not to line) the bottom of your beds, and what to line them with. We'll also explore whether or not to fence your entire garden, or just individual garden beds, and what to fence it with. Ready to solve some problems together? Here we go!

To Line or Not to Line the Bottom of Raised Beds

Whether or not you line the bottom of your beds depends on the underlying surface, how well that bottom level drains, and if there are any burrowing animals visiting your garden. These factors will help you decide whether or not to line the bottom of your beds when you are building them and if so, what type of liner you'll use.

A bottom liner has many advantages. It can improve drainage, reduce weeds, prevent burrowing critters from visiting, and protect the underlying surfaces such as concrete or wood from getting stained or damaged by water and soil.

Always think drainage, drainage, drainage when it comes to lining your raised beds. Good drainage is an important component of plant health. Water-logged soil doesn't allow air and nutrients to get to the root—and unhappy roots make for an unhappy garden. If you do choose to line the bottom, it's important that the lining has holes or is porous so that excess water can drain out.

Many pre-made raised beds have an attached bottom that has drain holes. As well, fabric raised beds have porous material lining the bottom. In these cases, the question of what to line the bottom of your beds with has been solved for you.

Solarize the area where your raised bed will sit with heavy plastic to kill weeds and grass.

Gardening on an Underlying Soft Surface—Grass, Weeds, or Compacted Soil

When your raised bed is to be placed on grass, weeds, or compacted soil, solarize the area first by laying down thick clear plastic. Secure the plastic with bricks and let it sit for a few weeks. The heat from the sun will kill the weeds and grass. If you live in an area where the sun isn't strong enough to solarize the area, try using black plastic to block out the light to the grass or weeds. Next, line the area with plain (i.e., minimal printing, no labels and tape), non-shiny cardboard. Place your raised bed on top and fill with soil. The cardboard will help smother any stubborn grass or weeds that might grow back after being solarized. Water will be able to drain through the cardboard and over time it will break down and add organic matter to your soil.

Gardening on an Underlying Hard Surface—Concrete, Wood, or Stone

When placing your raised beds on a hard surface such as a concrete side yard, a brick driveway, wood deck, or a stone or composite surface, water doesn't have anywhere to be absorbed or soak into like it does if it was contacting with a grass or soil surface.

OPTION #1: ELEVATE THE BED

The first option in this situation is to elevate your raised bed by putting it on legs or concrete blocks to provide better drainage. With this option, you'll need to attach a bottom made out of sturdy materials (with drainage holes) to your bed to hold the soil in. This will make a DIY raised bed design a bit more complex, but it can be done. (See the design section earlier in this chapter for information on building The Mini Elevated Raised Bed.)

If staining or damage to the underlying surface of the raised bed is a concern, lay a tarp or a thick piece of plastic underneath the elevated raised bed. This doesn't have huge visual appeal, but it does prevent water from getting on the underlying surface. Over time, you'll learn the right amount of water needed to just hydrate your plants to prevent flooding the area underneath your raised bed.

Elevate your raised bed to provide additional air flow and drainage.

OPTION #2: LINE WITH LANDSCAPE FABRIC, WIRE MESH, AND ORGANIC MATERIAL

An easier and less expensive option is to line the bottom of your bed with porous landscape fabric or wire mesh hardware cloth to keep the soil in. Then place sticks, tree branches, straw, and leaves in the bottom of the bed to increase air flow to the roots and improve drainage. This also adds organic matter that will break down over time, improves the soil, brings in the worms (always a good thing), and reduces the amount of soil you'll need—thus cutting costs.

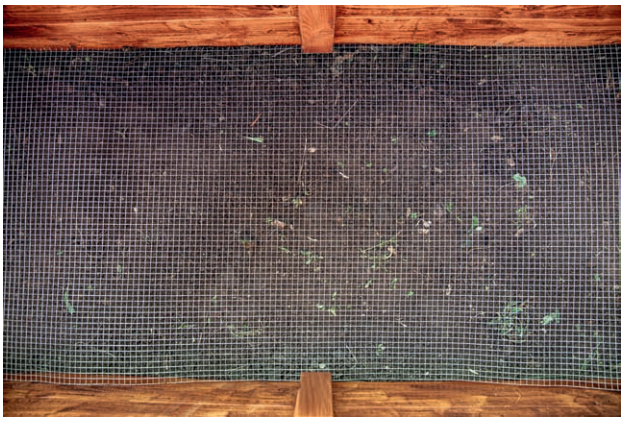
If you have a concern about damaging the surface on which the bed is sitting (such as with wood or stone), a tarp or heavy plastic placed under the raised bed will help protect the surface. However, when using plastic under a raised bed that is flush with the ground, make sure that it still allows moisture to escape, either by poking holes in the plastic, or by leaving it detached from the bed so excess moisture has somewhere to go.

Over time, you'll get the feel for watering just the right amount so your plants are well hydrated without flooding out the underlying surface, or low-lying neighbors that are in close proximity—which could be an issue in an apartment or condo.

Line raised beds sitting on concrete with wire mesh, or landscape fabric, and place organic materials in the bottom.

Burrowing Critters

Nothing is more disconcerting than checking on your garden on a lovely morning and seeing that your veggies have disappeared overnight, as if they fell into a sinkhole under your garden bed. If this has happened to you, a burrowing critter such as a gopher or a mole is likely the culprit. They are pulling your veggies underground by their roots. To solve this problem, line the bottom of your beds with a metal mesh hardware cloth and secure it to the bottom with staples or screws. There is no guarantee that this will work 100% of the time, but chances are, this will keep the pesky gophers from pulling your veggies into their underground lair.



Line your raised bed with metal mesh hardware cloth to keep burrowing critters out.

Fence your garden if you have critters who like to make frequent visits.

FENCING FOR CRITTER PROTECTION

Have you ever seen months of hard work destroyed in one fell swoop by a cute little bunny or a few graceful deer? I have—and it's maddening! I hate to break it to you, but at some point, during your gardening journey, no matter if you live in an urban or rural area, you'll probably get a visited from a furry, four-footed friend who will want to partake in the buffet you've planted for them.

Since fencing can be costly, decisions about how much to fence and the kind of fencing to use depend on what animals are visiting your garden.

WHO'S SNACKING?

First things first, identify who's snacking on your tomato patch or salad greens. Some common veggie loving culprits are deer, rabbits, gophers, woodchucks, voles, moles, rodents, birds, and even the family dog or cat. Observe your garden, look for the telltale signs of footprints, droppings, or teeth marks. We set up a night vision, motion sensor camera to record nocturnal animals and unwanted garden visitors. Once we catch them in the act, we can then determine what the best course of action is going to be. Ask local gardeners what common animal issues are specific to your area.

LARGE ANIMALS

If larger animals such as deer or bears are foraging their way through your veggies, consider installing permanent fencing made of plastic mesh, chain link, or wood that is at least 8 feet (2.4 m) tall around your entire garden. These animals are very destructive and as long as food is available, they will continually make a meal out of your garden. Yes, this will be an additional expense to include in your garden budget, but a permanent fence gives you the best chance of keeping the munchers out. Think of it as protection for your investment of supplies, soil, seed, and the months of precious time that you spent growing your own plants to harvest. A fence to keep these large animals out will save you huge amounts of stress and frustration caused by losing plants and time that you can never get back.

For larger animals such as deer or bears, fencing the entire garden is often the only way to protect your veggies.

Shorter fences that are 3-4 feet (1-1.2 m) high help prevent smaller animals (such as rabbits or the family dog) from munching on your garden.

SMALL ANIMALS

Most smaller animals, such as rabbits and the family pets, depending on how large the pet is and how well they can jump or climb, can be kept at bay with fences that are 3-4 feet (90-120 cm) tall. You may even have to place shorter fences around each individual garden bed. Options for materials for these shorter fences include:

- sheets of wire mesh hardware cloth
- concrete remesh panels
- poultry wire
- rolls of galvanized wire fencing
- livestock panels
- plastic mesh

Cut the fencing material of choice to the size of the perimeter of your garden bed, drive sturdy stakes or U-posts into the ground around the bed and attach the fencing to the posts with tie wire.

If rabbits come nibbling, set the fencing 6-10 inches (15-25 cm) deep in the ground because they like to dig. Use wire fencing as they'll quickly chew through anything plastic. For burrowing animals such as gophers, woodchucks, and voles, install wire mesh hardware cloth on the bottom of your beds before you fill them with soil to prevent the critters from burrowing their way up to the roots of your veggies.

A simple, inexpensive DIY raised bed cover made from mesh material and placed over individual garden beds can often keep out smaller animals such as rabbits, birds, squirrels, dogs, or cats. (See Chapter 4 for more ideas and details about making your own raised bed covers to keep out pests.) Experiment to see what method works best for you and don't give up, no matter how many animals come visiting!

Congratulations! You have your raised beds built, set up, and ready to grow! I can sense your excitement and your satisfaction in getting the job done. But I also sense a little apprehension too. You might be wondering, "What am I getting myself into?" And maybe even, "What the heck do I fill these beds with?" or "How in the world can I afford to fill these beds?"

I hear ya! And believe me, you are not the only one who's felt nervous and thrilled at the same time when starting to build a raised garden bed from scratch. I felt the same way after I built my first raised bed. In the next chapter I'll share exactly what I learned from my raised bed soil mistakes, what to look for in a good, raised bed soil mix, how to reduce the amount of soil you use in your garden beds, and share budget-friendly ways to fill your garden beds with DIY soil mix recipes.

3

Filling Your Raised Beds

In my early gardening days, our neighbor gave us some wood and Jerry and I repurposed it to build three raised beds. I was thrilled to have more garden space and dreamed of all the vegetables I would plant in my new garden. However, we were on a tight budget, and I didn't want to spend money on soil for my new beds. Imagine my excitement when I discovered a town nearby that had free soil for the taking. I asked a friend with a truck to help me pick it up and off we went for a few loads of soil. He was also kind enough to help me carry it, bucket by bucket, down the backyard hillside to my raised beds, to help me fill my new raised beds.

I eagerly planted my tomatoes, cucumbers, herbs, and salad greens in the new soil. Then I watered, fertilized, and checked on my plant babies several times a day. I could not *wait* for that fresh from the garden taste of a homegrown tomato! After a few weeks, my plants were still the same size. I couldn't understand why. I watered some more and gave them another feeding—surely this would help them take off. I hovered over them each day like a loving mother, dreaming of those fresh salads. Still no new growth. I was disappointed and puzzled. Why weren't my plants growing?

Where Did I Go Wrong?

As a new gardener, my first inclination was to cut corners and fill my new raised bed with the least expensive (free) soil I could find. To my dismay (and, I must admit, to my horror), I discovered this soil was free for a reason. While it was easy on the budget, it was almost entirely comprised of compost made from biosolids (i.e., wastewater solids—what is flushed down the local toilets). The free soil had little (if any) nutrients to feed my precious veggies and became hard and compacted over time. No matter how much I watered, the water never absorbed into the soil, but drained right through. My tomatoes and cucumbers plants became pale, yellow, sickly, and failed to thrive. Unfortunately, I learned the hard way that cheapest isn't always best and my garden paid the price.

It's All in the Soil

By far the biggest investment you'll make when starting a raised bed garden is in the soil. Inexpensive soil often has few nutrients and instead contains lots of fillers and ingredients that aren't the best or the safest in which to grow your veggies. Choosing the right soil will have a huge impact on how much food you'll grow (or won't grow) in your raised beds.

Soil that is living, breathing, and packed full of organic matter and nutrients will grow plants that are healthy, productive, and able to stand up to the elements, pests, and diseases. Whether you are using commercially produced soil or making your own soil mixture, purchase the best quality organic soil and/or ingredients that you can afford. Your garden will reward you many times over and you'll have tons of fresh, tasty fruits and vegetables to share with those you love!

Figuring out what soil to fill your new raised beds with can be an overwhelming task. There are many options from commercially bagged soil to bulk soil to endless recipes on the internet for making your own raised bed mix. You might be confused by all these choices and wonder which soil is right for you.

In this chapter, we'll learn about the components of healthy soil, what to look for in a soil mix, and the pros and cons of using commercial vs. DIY mixes. I'll also share a few recipes for how to make your own soil mix, options for filling your raised beds, and what to do (and what not to do) when you're filling your beds with soil. By the end of this chapter, you'll be ready to roll, armed with the knowledge and how-to's you will need to choose soil options that are the best fit for your garden.

Cheapest Isn't Always Best

One of the biggest pitfalls a new gardener can fall into is to fill a raised bed with poor soil. If you've done this, then you can relate to my story and know that good soil makes or breaks a garden. Healthy, living, breathing soil has a direct impact on how your garden grows—a mistake here can be devastating and can mean the loss of an entire garden season.

Components of Healthy Soil

Healthy soil should have good soil structure (how the soil particles bind together) to support the plant as it grows, both above and below the ground. A quality soil mix will have a balanced combination of three components:

- **Aeration:** Airflow throughout the soil allows excess water to drain so roots can breathe and don't get waterlogged. Oxygen is critical for root growth. The more roots there are means the more fruit there will be.
- **Moisture retention:** Soil should have good drainage yet not dry out too quickly. Soil is needed to hold moisture and nutrients around the roots.
- **Nutrients:** It is important that the soil is fed high-quality nutrients so your plants in turn will absorb those nutrients, thrive, and grow a ton of veggies for you to enjoy!

Commercial Soil vs. DIY Mixes

When filling your raised beds, there are many options for both commercial and DIY soil mixes. Each has its own advantages and disadvantages, depending on your budget, the needs of your family, your location, and the size of your garden. This section will cover the pros and cons of each soil mix so you will know which one works best for you.

Commercial Ready-Made Soil

Commercial ready-made raised bed soil can be purchased either bagged from a garden center or in bulk from a landscape company.

Bagged Soil

Advantages: Bagged soil is quicker and more convenient than making your own soil. It's usually available at your local garden center and can be quickly loaded into the trunk of your car and easily carried to your beds. Bagged soil is an excellent choice if you are filling one or two small, raised beds, and don't need a large amount of soil, or have an area that is hard to access.

Disadvantages: If you're filling more than one or two small, raised beds, bagged soil can be costly. A small, raised bed that is 4 feet × 4 feet (1.2 × 1.2 m) and is 12 inches (30 cm) deep will need 16 cubic feet of soil (or eight 2-cubic-foot bags). At an average price of $10 per bag, that's about $80 to fill just one raised bed. When planting several raised beds, the cost of bagged soil adds up quickly. In this case, bulk soil is the less costly option.

Bulk Soil

Bulk soil is a fraction of the cost of bagged soil bought from a garden center. Many suppliers of landscaping materials sell soil in bulk by the cubic yard. If you have several beds to fill, a budget-friendly option is to have soil delivered or, if you have access to a pickup truck, landscape supply companies will put a front end loader scoop full of soil into the back of the truck for you.

While bulk soil is an economical option, it's not always the most convenient choice. Unless you can easily access your garden with a truck, the soil will need to be transported, along the final leg of its journey to your raised bed, using a wheelbarrow or hand carried in buckets.

Bagged soil is a convenient option for one or two small, raised beds.

Purchasing soil in bulk is a budget-friendly way to fill several raised beds.

Soil Squeeze Test

A quick soil squeeze test will help determine the quality and structure of the soil.

- Grab a handful of moist soil and squeeze it.
- Soil that has good structure will stay together in a clump when squeezed and then break apart easily when you poke it.
- If the soil holds together tightly after you let go, this means it's too heavy and it has a high clay content. This type of soil will compact easily in your garden beds and not drain quickly. Amend any soil with a high clay content with coco (coir) fiber or peat moss to add aeration and improve drainage.
- If your squeezed soil falls apart when you let go, it means the soil will drain too quickly and won't retain water well. In this case, amend the soil with quality topsoil, compost, and/or worm castings to bind the soil together, improve water retention, and add additional high-quality nutrients.

Doing a quick soil squeeze test will help determine the quality of the soil.

Soil Quality Is Critical to Garden Health

Whether using bagged or bulk soil, the quality varies tremendously between suppliers and brands. To avoid wasting your money, always do your research. Read reviews for different brands of commercial bagged soil and call the landscape supply company to ask how their bulk soil is made—to make sure they use organic, safe ingredients. Talk to trusted garden friends about their favorite soil supplier and post questions in online garden groups. If possible, do the soil squeeze test (see below) on a soil sample before you make your purchase.

After doing your due diligence, you'll discover what soil works well for other gardeners in your area and have the knowledge you need to purchase high-quality bagged or bulk soil for your raised beds.

DIY Soil Mix

Advantages: Making your own soil mix is usually more budget friendly than purchasing commercially prepared soil, especially if you have several raised beds to fill. A good DIY soil mix includes several ingredients: topsoil, compost, organic fertilizer, and a water-retentive ingredient such as coco coir, peat moss, or vermiculite. (DIY soil recipes are later in this chapter.) If you have plenty of homemade compost, this reduces the cost even more.

Another advantage of making your own soil mix is that you can customize the soil specific to your garden and your preferences. Commercial mixes are made in bulk, don't always contain quality ingredients, and use the "one-size-fits-all" model. If you don't have access to high-quality bagged soil or are concerned about the ingredients in bulk soil, making your own soil mix gives you the peace of mind of knowing exactly what you're using to grow your precious veggies.

Making your own soil saves money and allows you to customize your soil.

Your soil needs might vary depending on where you live or what you're growing. For example, herbs tolerate dryer soils while squash likes it wetter. I live in Southern California where I get little rain and lots of heat, thus I need a soil that retains water and doesn't dry out easily. My plants thrive in soil that has higher levels of coco coir or peat moss in it for moisture retention. If you live in a rainy area, you don't need to add as much peat moss or coco coir ingredients for moisture retention, instead you may want to go with a soil recipe that includes a higher amount of topsoil, compost, and worm castings for additional nutrients.

If your soil mix has a good balance of the three components needed for a good soil—aeration (for drainage), water retention, and nutrients—you've hit the sweet spot and your garden will *love* it! However, there's no such thing as perfect soil. Building healthy, productive soil is an art that can take time. Don't be afraid to experiment and adjust your mix from year-to-year to fit the needs of your garden.

Disadvantages: A drawback of making your own raised bed soil mix is that it takes more time and energy to source and mix the ingredients. Not everyone has the time, access to supplies, space, or the physical ability to do this.

Recipes for DIY Raised Bed Soil Mixes

Now that we know what to look for in a soil mix and have learned the advantages and disadvantages of a commercial mix vs. a DIY mix, let's get down to the nitty-gritty and look at some recipes for raised bed soil mixes that are high-quality, yet budget-friendly. There are as many recipes out there for DIY soil mixes as there are gardening methods, so it can be confusing to navigate the different ingredients and choose which soil mix is best for you. In this section, I will share a basic explanation of the various ingredients that make up most mixes, as well as four of my go-to, favorite soil mixes. Remember that some ingredients are very similar in the attributes they add to the soil mix. Choose a soil mix that fits your budget, has ingredients that you prefer, and is one that can be easily sourced.

DIY Soil Mix Ingredients Explained

TOPSOIL

Topsoil is used as a base for raised bed soil mixes. Topsoil refers to the top 6–12-inch (15-30 cm) layer of soil found in nature (or in your backyard) that is usually made up of decomposed organic matter (leaves, twigs, roots, and plant debris) and probably includes a stone or two. Quality topsoil has some nutrients, although not as much as compost. Topsoil provides structure to soil, helps aerate it, and helps retain moisture and nutrients. Use topsoil from your backyard if it is available (free), purchase it in bulk from landscape supply companies (medium expense), or buy it bagged from garden centers (most expensive).

Topsoil, compost, and worm castings (from left to right) are three ingredients for a quality DIY soil mix.

COMPOST

Compost is decomposed organic matter that gardeners like to call "black gold." Compost adds nutrient-rich humus (the dark brown material that is left when organic material decomposes) that feeds and aerates the soil—bringing microbial activity and healthy bacteria to your plants. When you make it yourself, it's free and turns trash into treasure. This means less waste is going to the landfill and your garden reaps the benefits! Compost can also be purchased in bulk from landscape supply companies (at a medium expense) or in bags from garden centers (the most expensive).

WORM CASTINGS

Worms are always a welcome sign in the garden as they are a sign of healthy soil. Worm castings are a fancy name for worm poop. When worms are added to your raised bed soil, they will add tons of beneficial bacteria and microbes through their castings. Worm castings will help your plants fend off diseases and be healthier, as well as help build a living, breathing soil full of good microbial activity. Worm castings improve soil structure and drainage, and yet also help the soil to hold on to moisture. Because there are teeny, tiny worm eggs in most worm castings, when you add it to your soil, you will also bring in more worms that will continue to improve your soil over time. You can make your own worm castings (vermicompost), purchase worm castings online, or buy it from local retailers. My favorite worm castings are from VermisTerra Organic Soil Amendment. They are aged 7-10 years which makes them pure, stable, and readily available for the plant to absorb. (See Resources on page 169.)

Coco coir and peat moss can be used as a base for a DIY soil mix. They both enhance aeration and water retention in the soil.

Use vermiculite (right) in hot, dry climates to help your DIY soil mix retain water. Perlite (left) dries out quicker and is good choice for DIY soil mixes in rainy climates.

COCONUT (COCO) COIR

Coco coir can also be used as a base for your raised bed soil. It's a by-product of the coconut industry (thus is considered sustainable) and is usually sold in compressed dried bricks that expand when they are soaked in water. It has a spongy, husky (coconut fiber) texture and absorbs up to 10 times its weight in water. Coco coir provides excellent drainage, water retention, and aeration for soil. Coco coir takes years to break down in the soil, thus helping to avoid soil shrinkage in your raised beds. It contains few nutrients though. It is pH neutral, which means that a wide variety of crops will enjoy growing in soil that has a coco coir base. There are many organic options available, and coco coir can be purchased in different textures from fine to coarse. It's relatively inexpensive although generally more expensive than peat moss. Coco coir is widely available online and from local garden center retailers.

PEAT MOSS

Peat moss can also be used as a base for your raised bed soil. It's harvested from peat bogs and is generally not considered to be as sustainable as coco coir because (in most cases) it's harvested quicker than the peat bogs can re-grow. There are exceptions to this, such as with Good Dirt soil conditioner (see the Resource section at the back of the book), which contains peat moss that is harvested in a sustainable way. Peat moss absorbs up to 20 times its weight in water and retains that water longer than coco coir, thus reducing the watering needs of your raised beds. Peat moss contains very little nutrients though. It is slightly acidic, which some plants like but not all veggies enjoy, so you may have to add lime when growing in peat moss to make a pH adjustment to the soil. Peat moss is widely available from local retailers and is usually less expensive than coco coir.

VERMICULITE

Vermiculite is a light brown, silvery, layered, spongy, mineral product that adds aeration and water retention to your soil mix. When water is added, it expands to four times its size. Similar to a sponge, it doesn't dry out quickly, and holds on to moisture longer than perlite. Add vermiculite to your mix when growing plants that thrive on moisture—most of the basic garden veggies fall into this category such as squash, watermelon, tomatoes, cucumbers, and greens. Vermiculite is also a good ingredient to add in a hot, dry climate where the soil will dry out quickly. It won't work as well for plants that like well-drained and drier conditions such as some herbs, cactus, or succulents. Vermiculite is widely available online and from local garden center retailers.

PERLITE

Perlite is a volcanic material that is heated and crushed. It looks like little Styrofoam balls and adds aeration and water retention to your soil mix. The little balls are porous, so water drains quicker than with vermiculite. Perlite is a good choice to lighten a soil mix when you're using heavy clay topsoil from your yard. Add perlite to your mix if you live in an area that gets lots of rain, or when you're growing plants that like to dry out a bit between waterings such as with some varieties of herbs, cactus, succulents, or native desert plants.

Making Your Own Soil Mix

The challenge is in creating a soil mix with a good balance of drainage, water retention, and nutrients that will be right for your climate and what you're growing. Building good soil takes time. Start simple, with quality ingredients that fit your budget. Experiment to see what works best for your garden, then make adjustments the next growing season.

Because different sized garden beds require different amounts of soil, the recipes that follow call for a certain number of "parts" of ingredients. A part is simply a way to measure the amount of that particular ingredient and can be whatever quantity you want it to be. For example, for a recipe asking for three parts compost, you might use three 5-gallon (22.7 l) buckets full of compost or three wheelbarrows full, depending on how much soil you're making. Measurements don't have to be exact but are a general guideline. Remember, perfection is not our goal, but having fun while growing veggies is. There are many soil calculators online that can help you figure out how much soil you need depending on the square footage of your bed. For all recipes, mix the ingredients together well in a wheelbarrow, on a tarp, or mix them right in your empty raised beds to keep the task even simpler. I like to use a pitchfork for easier soil mixing.

Recipe #1: Combo Soil Mix

This recipe makes enough soil to fill one raised bed that is 4 feet × 8 feet (1.2 × 2.4 m).

INGREDIENTS AND INSTRUCTIONS:

- Fill ¾ of the bed with a bulk organic soil mix from your local landscape supply company.
- Add 7-8 cubic feet (200-225 l) of homemade compost, bagged compost, or bagged organic soil conditioner. Fill the bed to within a few inches of the top.
- You can also use a combination of compost and soil conditioner depending on your budget and what's available.
- Mix well.

Combo Soil Mix

Recipe #2: Keep It Simple and Thrifty Mix

The base of the Keep It Simple and Thrifty soil mix is the native topsoil in your backyard, keeping it budget-friendly. Make this mix on the cheap by adding homemade compost, but if that's not available, use bagged, organic compost.

INGREDIENTS AND INSTRUCTIONS:

- Start with 3 parts native topsoil from your yard.
- Remove any large rocks.
- Add 3 parts homemade compost or you can use bagged compost.
- Add ½ part worm castings.
- Mix well.

Recipe #3: Basic Bagged Mix

This is a good mix if you don't have native topsoil in your yard, homemade compost, or access to bulk ingredients from a landscape supply company. It utilizes bagged ingredients available at most garden centers.

INGREDIENTS AND INSTRUCTIONS:

- Start with 3 parts bagged topsoil.
- Add 3 parts bagged compost or bagged garden soil amended with compost.
- Add 2 parts coco coir or peat moss.
- Add 1 part vermiculite.
- Mix well and fill the garden bed.

Keep It Simple and Thrifty Mix ingredients

Basic Bagged Mix

Keep It Simple and Thrifty Mix mixed

Basic Bagged Mix in concrete block garden bed

Mel's Mix ingredients

Recipe #4: Mel's Mix

This is a very popular and widely used soil mix recipe from Mel Bartholomew's book, *Square Foot Gardening*. It's light and fluffy, retains water, and has powerful nutrients that will feed your plants and produce lots of veggies. It's more expensive than other DIY soil mixes, but is a good investment in your garden if you have the budget for it. You can cut costs by sourcing bulk ingredients or by making your own compost.

INGREDIENTS AND INSTRUCTIONS:

- Start with 1 part peat moss or coco coir.
- Add 1 part compost.
- Add 1 part vermiculite.
- Mix well and fill the garden bed.

Filling Methods

Now that you've either purchased a commercial soil mix or made your own DIY budget-friendly alternative, let's discuss four different methods for filling your beds. The methods range from the most convenient (but usually more costly) to showing you how to fill your beds with less soil for the least expense (but sometimes this is more time consuming). Choose which method works best for you or use a combination of all three depending on your budget and what materials you have available.

Method #1: All Soil

This is the easiest, but most expensive method. You'll completely fill your bed from top to bottom with the soil of your choosing. If your bed is located on top of grass or weeds, first line the bottom of your bed with brown cardboard (select one with minimal printing and remove the tape and the labels) or a thick layer of newsprint (black ink only preferred). Wet down the lining material. Fill your bed to the brim with soil and plant—now you're on your way to fresh, tasty veggies!

Advantages: The All Soil method is quick and simple. There's no need to collect other organic materials for your beds (aside from the ingredients for your DIY mix if you are making your own soil), you can fill it quickly, and plant immediately.

Disadvantages: This method requires more soil, thus it is more expensive.

Method #1: All Soil

Method #2:
Quick and Thrifty Fill

Method #2: Quick and Thrifty Fill

A quick and thrifty way to fill raised beds, especially when filling large (or several) raised beds when you need a high volume of soil, is to fill the bottom third of your bed with rougher, organic material and then fill the rest of the way up with soil. Good organic materials to use for the bottom include twigs, small tree branches, shredded leaves, straw, and pine needles. The smaller the organic materials are chopped or shredded, the quicker it will break down.

Advantages: The Quick and Thrifty Fill uses less of your valuable soil (saving you money) and adds organic matter to your beds that break down over time— bringing in worms, while adding aeration and fertility to your soil.

Disadvantages: This method requires you to source large amounts of organic material (depending on your garden size) and beds may need topping off with more soil as materials break down.

Method #3: Layered No-Dig (Lasagna) Method

What can you do when you don't want to lug soil in buckets, wheelbarrows, or source ingredients for making a DIY soil? But you have lots of leaves, garden waste, food scraps, and coffee grounds, and are able to leave a raised bed or two unplanted for a few months? The answer is make your own soil (for free) right in place with a layered, no-dig garden!

This method, often called "lasagna" gardening, is like making a hot compost pile right in your garden bed. Rather than layering your organic materials in a compost bin or pile, the layers will go directly into your raised beds, much like you would do to make a yummy pan of lasagna. Wetting the layers down thoroughly (like the "sauce") will help speed the decomposition process. These layers "cook" away, decomposing for several months, and will eventually turn into rich, dark soil that you can use for planting. This rich, layered, no-dig method of filling your raised bed will feed your plants and reward you with lots of delicious veggies.

Advantages: Although you'll be layering the materials, your labor is minimal. The "lasagna" method doesn't require digging, mixing soil ingredients, or moving loads of bulk soil from your driveway to your raised beds. The layered materials will smother any weeds growing under your raised bed (although you can line your bed with cardboard before layering if you wish). If you aren't in a hurry and have space where you can let beds sit unplanted for several months during the decomposing process, this is a great method to fill your beds with soil that is basically free.

Method #3: Layered No-Dig (Lasagna) Method

Disadvantages: The layered, no-dig method needs large amounts of organic material, which might be difficult to collect all at once. It also takes 3-4 months to break down the layers and transform the organic material into soil that can be planted.

BUILDING LAYERED, NO-DIG (LASAGNA) METHOD SOIL

1. Line the bottom of your bed with brown cardboard (with minimal printing and remove the tape and labels) or newsprint (black ink preferred).
2. Wet down the layers.
3. Add about 3 inches (7.6 cm) of "brown" organic materials. These materials aren't always brown in color but are the carbon source that feeds the microbes and can be shredded leaves, plain brown cardboard, shredded newspaper, dried twigs, straw, or tree clippings.
4. Layer about 1 inch (2.5 cm) of "green" material over the previous brown layer. These materials aren't always green in color but are a nitrogen source. Green materials can include fruit and vegetable scraps from the kitchen, used coffee grounds, eggshells, or garden clippings (not from diseased or pest-infested plants). Don't add meat, bread, or dairy products to your layered bed as this attracts rodents and other pests.
5. Keep layering the browns and greens until your layers are about an inch (2.5 cm) or so from the top of the bed. Spray water between each layer.
6. Top off the layers with an inch (2.5 cm) of native soil from your yard or some finished compost. This top layer will kickstart the "cooking" process, introducing the microbes that eat the organic material and break it down.
7. Cover the bed with black plastic to help heat it up and encourage it to break down quicker. The deeper and wider your lasagna garden, the quicker the materials will heat up and break down.
8. Check your layered, no-dig bed once a week or so. The materials should be moist, like a wrung-out sponge. If needed, wet it down again.
9. After 3-5 months, your layered raised bed garden will be ready to plant. It will shrink down quite a bit as the materials decompose, so top it off with soil before planting.

Method #4: Hügelkultur Method

Hugule what? Hügelkultur (pronounced hoo-gul-culture) is a German word that means "hilled culture" or hill mound.

The basic principle of hügelkultur is to create a hill of dead, decaying wood, branches, and leaves that is covered by grass, leaves, other organic matter, and soil. The wood supplies the moisture and nutrients to the hill mound as it decomposes and also provides a haven for the living soil biology (beneficial insects and microbes) to thrive. A hügelkultur garden can be a large, hilled area, or it can be built right in a raised bed in a small backyard. It's different than a layered, no-dig garden, as it generally uses larger, thicker logs, is topped with soil, and can be planted right away. The wood decomposes gradually providing moisture and nutrients to the plants over the long haul.

Advantages: The hill mound method is economical, simulates nature, and the decaying wood provides a haven for the living soil biology (beneficial insects and microbes). The soil is warmed from the decaying organic materials (which extends your growing season), and the decomposing wood supercharges your soil—retaining moisture and releasing it to your plants (which reduces watering needs). Large stumps or logs in the bottom of the raised bed make it difficult for burrowing animals like groundhogs to get through. This method is great for those that live near woods or have access to large amounts of fallen, dead trees (but also works well in small, raised beds).

Disadvantages: It can be tough to collect enough large logs and other organic matter to build a hügelkultur.

BUILDING HÜGELKULTUR METHOD SOIL

1. Collect as many organic ingredients as you can—stumps, logs, branches, leaves, and untreated grass clippings. The deader and dryer the ingredients are, the better. Avoid using treated grass clippings, green (live) branches that will sprout shoots, treated wood, or walnut and black cherry wood (as they inhibit growth).
2. Fill your bed ⅓ full with your organic materials.
3. Water the hügelkultur bed.
4. Top with the soil of your choice and plant!

Method #4: Hügelkultur Method

Filling a hügelkultur bed

Pitfalls to Avoid When Filling Your Raised Beds

Growing in raised beds is pretty forgiving and, as you can see, there are many ways to make and fill your beds. However, there are a few common pitfalls you'll want to avoid that can save you many headaches, time, and frustration down the line.

Contaminated Soil

As I mentioned at the beginning of this chapter, using contaminated soil was the mistake I made when I filled my first raised bed, and the vegetables never took off. A key ingredient in that soil was compost made with wastewater solids. I lost an entire growing season because I cut corners and went with free soil rather than investing in high-quality soil. Free sounded great at the outset, but I had to remove the soil from the raised beds, haul it away, and refill the beds with a higher quality soil the next growing season. If you are offered free soil, there may be a reason it's free. Ask if there were any chemicals or pesticides used on plants that were in the soil, any water runoff, or any other factors in the surrounding environment that might have contaminated the soil. Learn from my mistake and save yourself the time and labor of having to replace your soil down the line.

Weed-Filled Soil

When I was a child, my family had a very large vegetable garden and one of my chores was weeding. Needless to say, I was never thrilled about spending the better part of a summer day on my hands and knees yanking out weeds from endless rows of beans. One of the appeals of growing with raised beds and using high-quality soil is the ability to avoid what no gardener likes to do—spend hours weeding! Take care that whatever soil you use to fill up your garden beds is not filled with weeds (living, dried, or seeds). This can especially be a problem for gardeners using native soil that was dug up from a grass filled corner of your yard as part of your soil mix. The soil may not look like a problem soil when you're mixing it with compost and worm castings, but it may actually contain seeds for aggressive and stubborn weeds. As you add nutrients to your raised beds and then water your soil, those weed

seeds may suddenly pop to life. The weeds will compete with your veggies for nutrients (and water) or possibly even take over your raised garden. If you're going to use native soil that has a history of stubborn grass and weeds, solarize it by covering it with heavy plastic for several weeks before you add it to your soil mix. This will help kill weed seeds that might be lingering. For this reason, I prefer not to use any grass clippings to fill the bottom of my raised beds as they may contain seeds that could migrate to the surface, sprout, and thrive in my quality soil mix. Soon the seedlings will be full-grown weeds, making my veggies suffer, and making more work for me in the long run.

Underfilling

Don't make the mistake of underfilling your garden beds. Depending on the height of your raised beds and what type of surface your bed sits on, plant roots may have limited space to grow. Max out the available space for healthy roots to grow by filling those garden beds all the way up and then top them off with a few inches of mulch. (More about mulching in Chapter 4).

Since you're using a quality soil mix with lots of organic matter, good drainage, and plenty of aeration, as the organic matter breaks down, your soil will settle over time. Settling could be as much as 2-6 inches (5-15 cm) depending on the soil mix and how much organic matter it contains.

Your beds might look overfilled at first, but over the next few weeks, the aerated soil will settle to make the mulch layer fairly level with the top of the beds. For example, if you're growing cucumbers in an 8-inch (20 cm) deep raised bed sitting on your concrete side yard, they'll need about 6 inches (15 cm) of soil to have enough space for good growth. This will give the roots adequate space to absorb moisture, nutrients, and provide stability to the plant. If the bed is filled with 6 inches (15 cm) of soil and the soil settles a few inches after watering and planting, this means your bed will have just 4 inches (10 cm) of soil. Your cucumbers will not have the space they need to grow for maximum production, and you've compromised your harvests! Err on the side of overfilling rather than underfilling. Then, when your soil settles, it will be flush with the top of the raised bed, providing maximum growing space for the plant roots. Your plants will thank you!

Now that our raised beds are filled to the brim with the best quality soil we can afford, the fun begins in earnest! Let's dig in and look at how to successfully plant and grow in your raised beds so you have *lots* of veggies to harvest! Are you ready?

4

Planting and Growing in Your Raised Beds

Keep It Simple, Expand Later

Starting a garden can feel intimidating—but it doesn't have to be. My garden motto is "Start simple and expand later." You don't need to plant an entire farm full of vegetables or need to have tons of space to build several raised beds. All you need is a dream, the desire, a few seeds, a little bit of soil, some sunshine, and just one raised bed!

Once you're successful with a tiny, simple garden and have tasted that first fresh harvest—you'll be hooked. Soon you'll have the confidence to expand and plant a few more vegetables in another raised bed or two. Don't be afraid to experiment to see what methods and what veggies work best for you. The most important thing to do is to have fun growing your garden, enjoying the amazing taste of home-grown veggies, and sharing your veggies with those you love.

Beginner-Friendly Crops to Grow in Raised Beds

Let's start off planting with beginner-friendly, easy-to-grow crops. *Remember, you don't have to grow them all*. Begin by asking yourself, "Which vegetables do I like to eat?" Plant two or three of them in one small, raised bed. *Just get started*—even if you grow only one or two things the first time you plant.

Warm-Weather Vegetables, Herbs, and Flowers

Warm-weather crops can be planted outdoors once the last frost date in your area has passed. They will thrive when they are planted in warm soil that is at least 50°F to 60°F (10°C-16°C). As well, nighttime temperatures should be between 60°F and 75°F (16°C-24°C), and daytime temperatures between 75°F and 90°F (24°C-32°C). Cool temperatures that are less than 60°F (16°C) or overly hot temperatures that are over 90°F (32°C) will slow their growth. Warm-weather veggies are cold-sensitive and in most cases, frost will kill the plants.

Warm-Weather Veggie Secrets to Success

Make it easy on yourself—plant warm-weather veggies so that they mature when the weather is warm. The secret to success is to plant them outdoors a few weeks after the last frost date of the spring, as soon as the soil is warm—about 50°F (10°C.) This gets them growing so they have as many warm summer days as possible to produce as much as they can. In many areas, late summer is also a good time to plant quick maturing, warm-weather crops such as beans, squash, cucumbers, or my favorite dwarf tomato, the Tiny Tim. When planting in the fall, you are good to go as long as there is enough time for these frost-sensitive veggies to mature before the nights get colder, days get shorter, and the first frost hits.

See the Succession Planting Chart in Chapter 5 for growing guidelines.

Sunflowers and eggplants are two great choices for warm-weather success.

Warm-weather veggies thrive when daytime temperatures are between 75°F and 90°F (24°C-32°C).

CaliKim's First-Timer Warm Weather Favorites

See the planting layouts in Chapter 5 for specific vegetable variety suggestions.

- Beans
- Cucumbers
- Eggplant
- Tomatoes
- Peppers
- Squash
- **Greens:** kale, chard, collards
- **Herbs:** basil (Thai, Italian, purple), rosemary, thyme, sage, oregano
- **Flowers:** Don't forget to help the bees! For "thrillers" plant zinnias, sunflowers, wildflower mixes, daisy, borage. For "spillers" plant sweet alyssum. For edging plant marigolds.

Cool-Weather Vegetables, Herbs, and Flowers

The cool-season crops grow best when daytime temperatures are between 40°F and 75°F (4°C-24°C). Many cool-weather crops will even tolerate light frosts at 32°F (0 °C), especially if the plants are well established when the frost hits. At the other end of the thermometer, when temperatures hit 80°F (27°C) or higher, cool-weather veggies won't like it. In the heat, cool-weather veggie seeds won't germinate (sprout), they won't grow if they have already germinated, and they will definitely not produce those delicious veggies you're craving.

Cool-Weather Veggie Secrets to Success

Make it easy on yourself—work *with* your vegetables and the weather, not against them. The secret to successfully growing cool-weather veggies all the way to harvest is to plant them so that they mature when the weather is cool. The best time to plant them outdoors is a few weeks before the last frost date in the early spring so that they mature before the hot summer weather hits. Or plant them after the summer heat is gone during the cooler days of the fall. In a temperate winter climate, such as where I live in Southern California, the best time to grow cool-weather veggies is in the winter, once the weather is consistently under 75°F (24°C). They'll reward your tender loving care by producing lots of delicious and nutritious harvests for you to snack on right in the garden or bring them inside and make a meal of them for your family.

Many cool-weather veggies can either be direct-seeded in the garden or started from seed indoors when the temperature is too cold (in the late winter for planting outdoors in early spring), or too hot (in late summer for fall planting) for them to thrive outdoors. This way, you have seedlings to transplant outdoors when the temperature is just right, saving you time and giving you the best chance of a successful harvest before the weather gets too hot.

See the Succession Planting Chart in Chapter 5 for growing guidelines.

Peas are a common cool-weather vegetable.

The secret to success when growing cool-weather veggies is to plant them so they are ready to harvest while the weather is cool—between 40°F and 75°F (4°C-24°C.)

CaliKim's First-Timer Cool Weather Favorites

- Beets
- Broccoli
- Carrots
- Cauliflower
- Onions
- Peas
- Radishes
- **Greens:** lettuce, mustard greens, kale, chard, spinach, collards
- **Herbs:** parsley, dill, cilantro, chives
- **Flowers:** For "spillers" plant nasturtiums. For edging plant pansies, dianthus.

Shade-Tolerant Veggies

Don't give up growing your own veggies because you don't have a large sunny spot. Plant veggies that will tolerate shade (or partial sun as I like to call it). Veggies in a partial sun garden may not grow as quickly or become as large as those growing in a full sun garden that gets 6+ hours of sun a day. However, there are many vegetables that will still thrive in partial sun (3-4 hours a day) and keep your dinner plate full of delicious harvests.

The key is planting crops that will still produce in partial sun. Many plants actually benefit from some shade, especially in the heat of the summer when the intense sun can stress them out and cause them to slow down.

In our partial sun garden, we plant quick-growing greens, herbs, and root vegetables. We'll also pop in some taller greens, such as kale (there are so many gorgeous varieties), chard, and collards at the back of the garden bed. These greens are extremely hardy and their leaves grow back when harvested—even when the plant is pruned down to a few inches of stem. They'll keep on truckin' during the dog days of summer, thriving in both hot and cold (frosty) temperatures. Harvest the leaves when they are small for baby greens superfood salads or let them grow large to use as wraps or pureed in smoothies.

For the middle of our bed, quick-growing arugula, mustard greens, and specialty greens such as mizuna and bok choy will fill the space. We'll also save a spot right up front for a lovely array of lettuces and herbs such as oregano and basil during the hot summer. Then we'll put in cilantro, parsley, and dill during the early spring and fall. We'll edge our partial sun bed with delicious, easy-to-grow, smaller root veggies such as radishes and beets. If you don't get any large radish or beet roots, you can always throw the greens into your salads or sauté them in a stir-fry.

Whenever possible, look for smaller varieties that don't need as many hours of sunlight to mature. Many fruiting fruits and vegetables, such as full-sized tomato plants, melons, eggplant, and peppers are happiest in 8-12 hours of sunshine. However, smaller, compact varieties of those same veggies will still produce in partial sun, though not as much as if growing in a full sun garden.

Tips to Bring in the Pollinators

Mix It Up—Plant Flowers in Between Your Veggies

Planting a mixed garden creates a pollinator-friendly space that brings bees, butterflies, and hummingbirds right where you want them—next to your veggies. Interplanting flowers and veggies not only adds beautiful *pops* of color to your raised beds but makes it easy for our pollinator friends to do their job and helps you to grow lots of veggies.

Mix Up the Colors

Different pollinators have different favorite colors. Attract many different kinds of pollinators by planting a rainbow of flowers in your raised beds.

- Bees love blue, yellow, white, and purple. Plant borage, calendula, sunflowers, black-eyed Susans, sweet alyssum, and lavender to attract bee pollinators.
- Hummingbirds love red. Plant scarlet runner beans, nasturtiums, and poppies to attract hummingbirds.
- Butterflies love red and purple. Plant zinnias, wildflower mixes, and milkweed for butterfly pollinators.

Keep the Blooms Going All Season Long

First plant cool-season flowers in early spring as the weather warms up. Then sow warm-weather flower seeds in your garden beds or plant the transplants you have ready (that were started indoors 6-8 weeks earlier). As one flower type passes its prime, another will be ready to bloom and take its place as the star of the garden.

Wildflower mixes contain a wide variety of flowers, are low maintenance, and many have selections that bloom from spring until fall. Plant flowers with long blooming times such as zinnias, borage, gerbera daisies, and sunflowers to attract many different species of pollinators. Trim spent flowers to lengthen the wildflower bloom time (unless you are leaving the seed heads for the birds).

Staking, Trellising, and Other Structures

Now that you know *what* to plant, let's talk about *how* to plant so that you can maximize every square inch of growing space in your raised beds.

Grow Up—Not Out

Sprawling gardens with squash vines trailing for acres, and fields full of pumpkins and watermelon are wonderful when you live in a rural area with plenty of space to spread out. However, with the huge explosion of organic gardening in high-density urban areas, most of us don't have the luxury of this kind of space. Vertical gardening is a method of growing *up*, not *out* and replaces sprawling vines with plants growing tidily up support structures such as garden arches, towers, A-frames, stakes, wire fencing, and trellises of all kinds.

The Benefits of Vertical Gardening

Grow More—Max Out Your Space

Growing *up* allows you to grow more crops in a smaller space and maxes out production in your raised bed, utilizing every square inch so you can grow more veggies. You can double or even triple the number of veggies you grow this way and make use of otherwise unused space.

Healthier Plants

Many common plant diseases (especially mildew and leaf spots) are caused when leaves get wet and stay wet. Growing veggies vertically keeps the leaves off the ground, increases air flow—helping leaves and stems dry off when they get wet—and generally just keeps them healthier. It also helps keep creepy crawlies and critters at bay because the height of a vertical garden makes it more difficult for pests to attack your precious crops.

Visual Interest

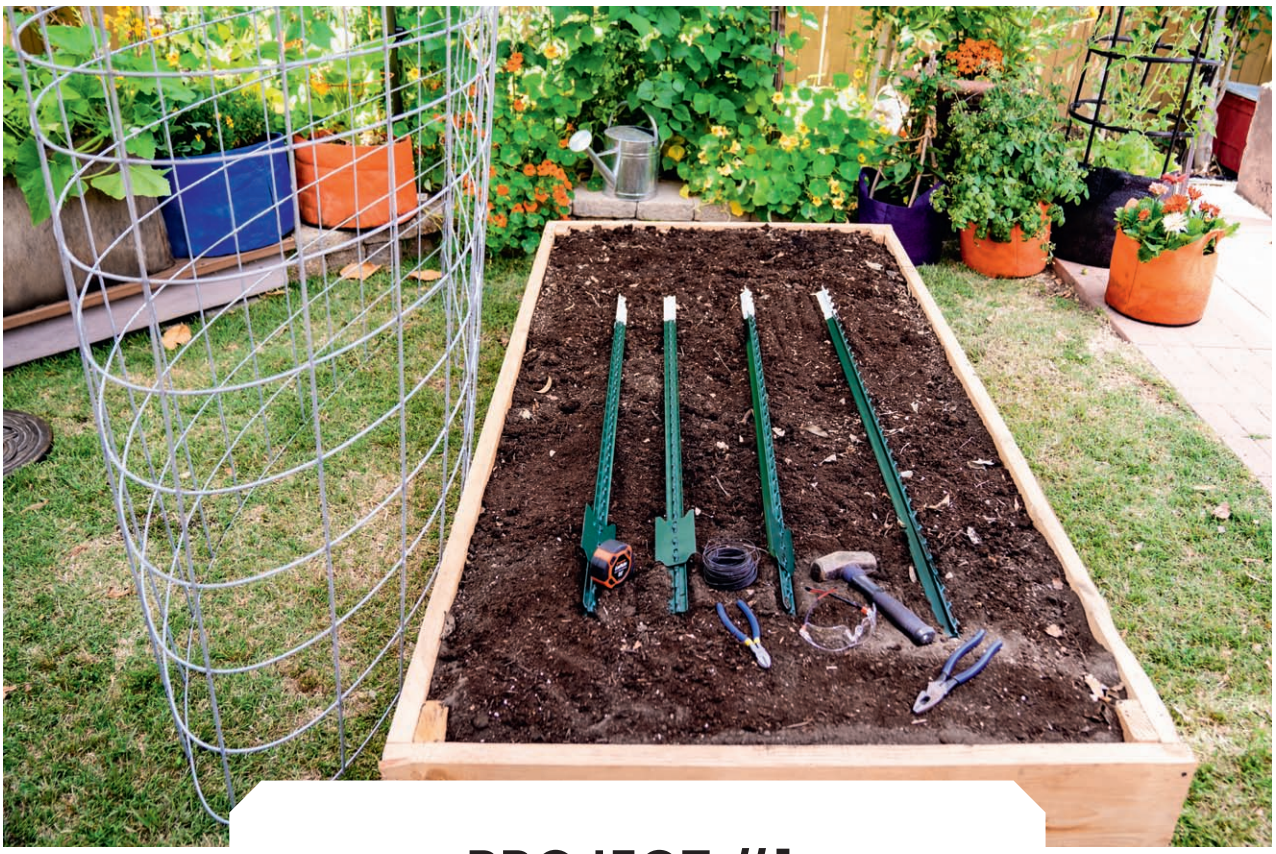
Vertical gardening adds a huge punch of visual interest and is aesthetically pleasing. Create a layered look with trellises of different heights, shapes, and colors. A trellis with a flowering, trailing vine growing on it can double as a cover for an unsightly air conditioner (or trash cans) or create a unique, living privacy screen for your backyard.

Vertical gardening makes growing veggies easier, combines charm with beauty and functionality, and makes for a neater, tidier garden. Give yourself permission to make all types of beautiful, vertical-growing structures and create a unique, classy, and peaceful garden space.

WHAT CROPS CAN YOU GROW VERTICALLY?

Easy-to-grow vining or climbing plants include tomatoes, cucumbers, squash, peas, pole and runner beans, compact watermelon, small pumpkins, passion fruit, grapes, nasturtium, sunflowers, and giant zinnias.

Almost anything can be grown vertically, as long as you have the proper support structure for it. Get creative—think beyond the traditional trellis designs you can find at garden centers. Look for materials you can repurpose and upcycle. Scour garage sales and thrift stores for old bed frames, wood ladders, crib rails, and old wire shelving. Look around your backyard for pruned tree branches, PVC pipe, copper pipe, scrap wood, fence slats, chain link, or any type of wire fencing. Just about anything that can be placed in the soil and pointed *up* can be used for vertical gardening.



PROJECT #1:
Cattle Panel Arch

A garden arch made from a cattle panel is one of the sturdiest and most inexpensive trellises you can have in your garden. A cattle panel arch is a great way to vertically grow heavier or vining fruits or vegetables such as compact watermelon and butternut squash. It is visually appealing and will save you a ton of space. My cattle panel arches have been home to many fruits and veggies over the years, including butternut squash, tomatoes, cucumbers, runner beans, watermelon, and grapes. One winter, we even covered our cattle panel arch with heavy-duty plastic for a DIY raised bed hoop house. It worked great to keep some tomato plants cozy over the winter.

Cattle panels are galvanized (so they won't rust), heavy-duty wire fencing made from thick 4-gauge wire that are 4 feet × 16 feet (1.2 × 4.8 m) long. They are very sturdy and plenty strong enough to hold heavy vegetables and fruits. Cattle panels are typically used to fence livestock on farms, but in recent years have become very popular with backyard gardeners. In urban areas, cattle panels can be challenging to find. We had to drive to a hardware store about an hour away to find ours. So, call ahead to make sure that your local store has them in stock. In rural areas, they will be easier to find—most of the time the local feed or farm store will stock them. Cattle panels are long and bulky, and require a large vehicle to transport them. We bent our cattle panel in half to fit it into the back of our Suburban. Yes, it can be done. Where there's a will, there's a way!

Cattle panel arches are very versatile and can be installed over a raised bed or as an arch to make a tunnel between two raised beds. They can be used as trellises for raised beds sitting on grass, hard-packed soil, concrete, stone, or wood surfaces.

For this project, the cattle panel arch is installed over a raised bed that is 4 feet × 8 feet (1.2 × 2.4 m) to create shade underneath the arch for veggies that would benefit from protection from the hot sun. This raised bed is sitting on grass, and the cattle panel is attached to T-posts that are pounded into the ground inside the raised bed for stability. For raised beds on concrete, wood, or stone surfaces the T-post and cattle panel will need to be attached to the raised bed itself with heavy-duty hooks or staples rather than pounded into the ground.

This project makes an arch using one cattle panel, but it can also be made with two cattle panels placed end-to-end for extra growing space area. Our finished arch is 4-feet (1.2 m) long and about 6-feet (1.8 m) high at the peak of the arch. Keep in mind that the greater the distance the cattle panel is spread out at the bottom, the lower the peak of the garden arch will be at the top. Conversely, as you move the bottom of the arch closer together, the higher the arch will be. Adjust accordingly to your preference and specific growing space. This is definitely a two-person project, so enlist the help of a garden buddy.

Supplies for a Cattle Panel Arch:

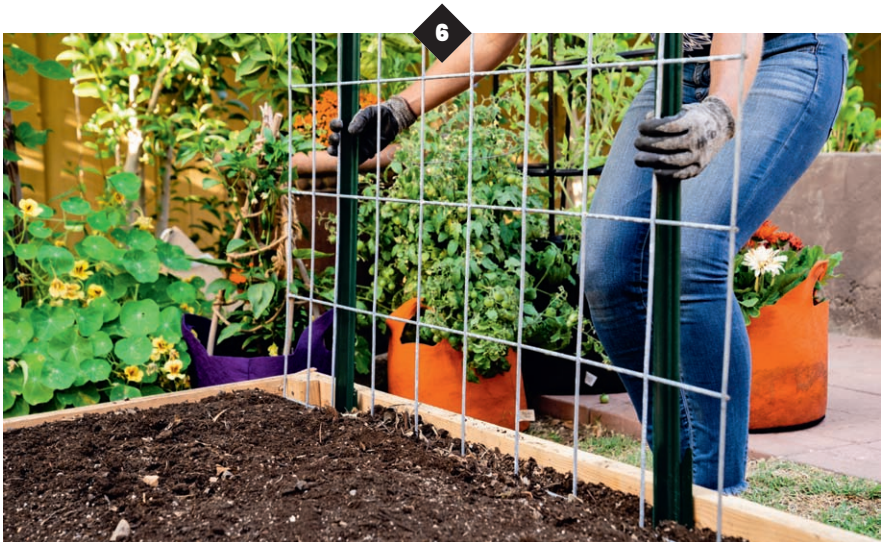
- One cattle panel
- Four T-posts that are 5 feet (1.5 m) long (use longer T-posts when installing the cattle panel arch in taller raised beds to provide adequate support).
- 12-gauge tie wire

Tools:

- Safety glasses
- Pliers
- Wire cutters
- Measuring tape
- Heavy-duty hammer or post pounder
- Tape measure

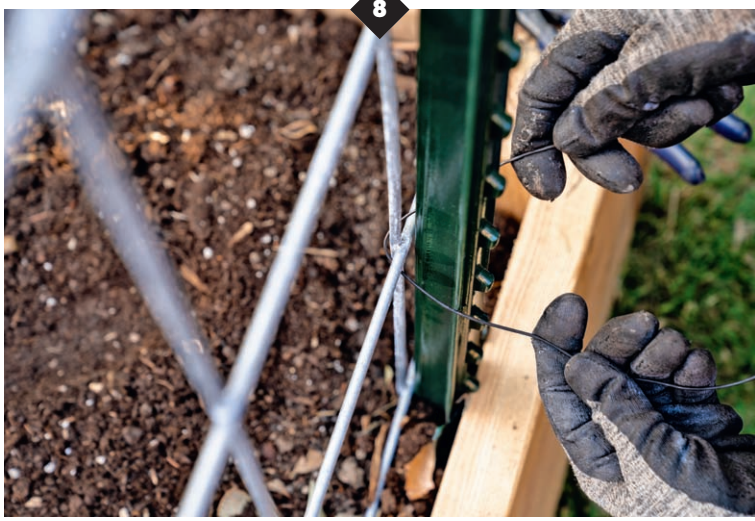
STEP 1: Pound in the T-posts

1. Wear safety glasses for this project as cattle panels can be squirrely—always protect your eyes!
2. Make sure you have identified buried utility lines and your cattle panel arch is being constructed far away from them.
3. Space the four T-posts 3½ feet (1 m) apart, evenly on both sides of the raised bed.
4. Using a heavy-duty hammer or post pounder, drive the T-posts 6-12 inches (15-30 cm) into the ground (or deeper, depending on the height of your raised bed). This works best when pounded into hard-packed soil under the raised bed so that the T-posts are stable enough to hold the cattle panel arch in place.



STEP 2: Install the cattle panels

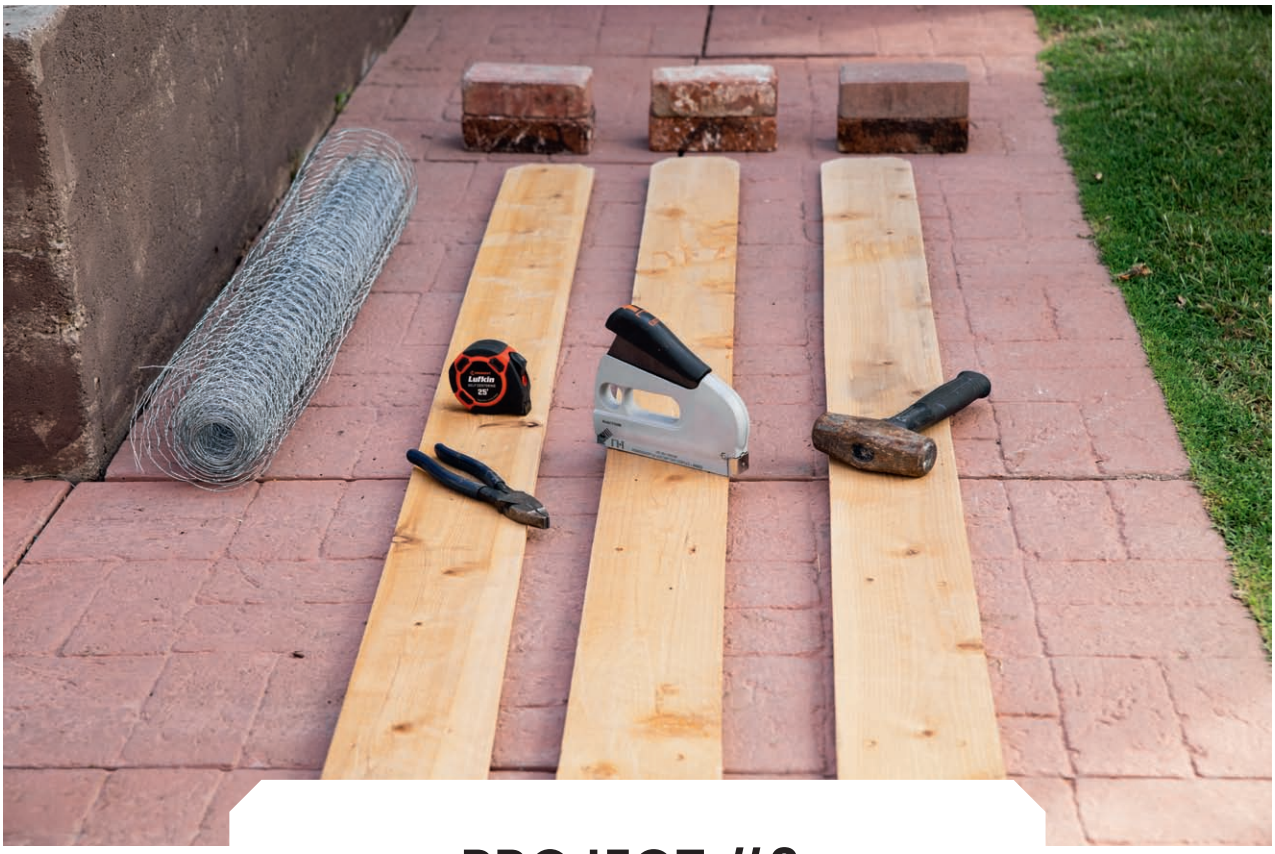
5. With the help of a friend, carefully bend the cattle panel into an arch and place it over one end of the raised bed.
6. Walk the cattle panel into place inside the T-posts. The tension of the arched cattle panel will help keep it in place until it is secured to the T-posts with wire. Be careful here, as the cattle panel can easily get away from you and snap out of place.



STEP 3: Connect the cattle panel to the T-posts

7. Using wire cutters, cut a length of tie wire that is 1-foot (30 cm) long and fold it in half.
8. Make a U-shape out of the wire. Place the wire around the cattle panel and then the T-post about 6 inches (15 cm) from the bottom of the raised bed.
9. Cross the wire ends over in front of the T-post and pull the ends tight.
10. Using pliers, twist the wire three times. Pulling it towards you and keeping it very tight.

11. Cut off the excess wire.
12. Bend the twisted wire ends down flush to the T-post so there are no sharp edges protruding.
13. Tuck the sharp end of the wire completely inside the open channel of the T-post for safety.
14. Attach the 2nd wire about one foot (30 cm) from the top of the T-post. Wrap, bend, twist, and tuck in the wire.
15. Repeat Step 3 with each T-post.
16. Completed cattle panel garden arch—ready for climbing plants.



PROJECT #2:
Fence Slat Chicken Wire Trellis

This is a perfect trellis for lighter, vining veggies such as cucumbers, peas, and beans. It is inexpensive and simple to build—a quick and easy, one-person project involving chicken wire that is attached to fence slats using a staple gun. The staple gun makes it very forgiving to remove staples if mistakes are made and staples are put in the wrong place.

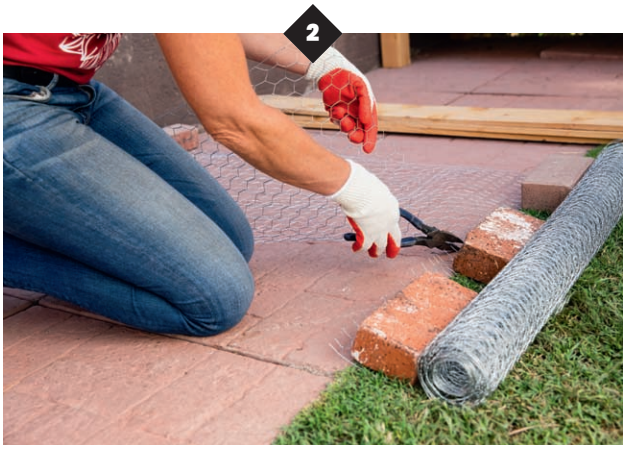
This project is made to fit a raised bed that is 4 feet (1.2 m) long, but feel free to customize it to the size of your raised bed if a longer or shorter trellis is needed. Make several to use as a simple fence to keep the critters or family pet out of your garden.

Supplies for a Fence Slat Chicken Wire Trellis:

- One 3-foot (90 cm) wide roll of chicken wire (also called poultry netting). The smallest roll is usually 25-feet (7.6 m) long so you will have extra for more projects, or you can split a roll with a friend.
- Three redwood fence slats that are 6 feet (1.8 m) tall (redwood will last longer).

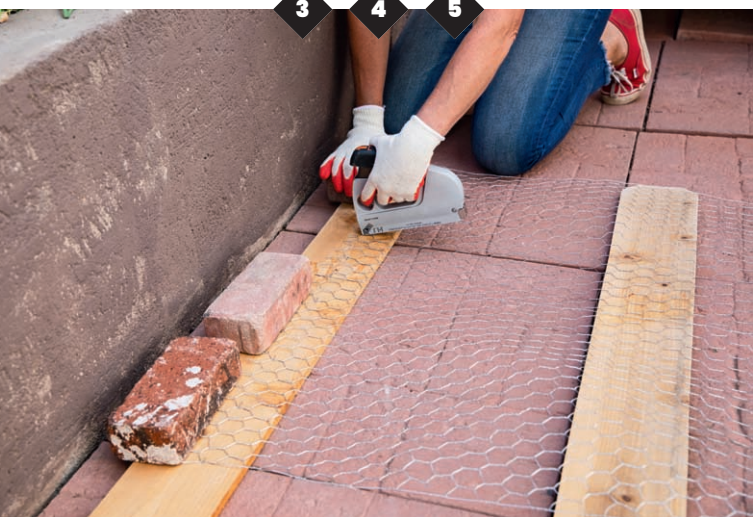
Tools:

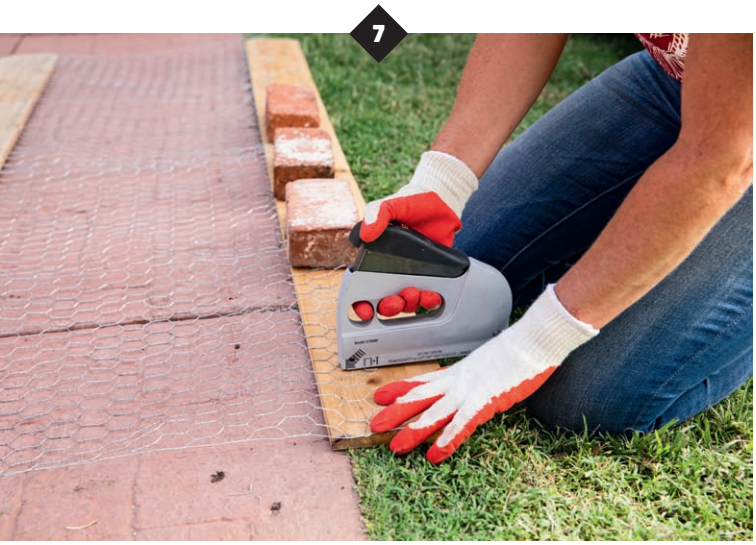
- Safety glasses
- Heavy-duty hammer
- Wire cutters
- Staple gun with staples that are at least ⅜-inch (10 mm) wide.
- Six bricks or heavy rocks to hold the chicken wire in place while cutting.



STEP 1: Lay out and cut the chicken wire

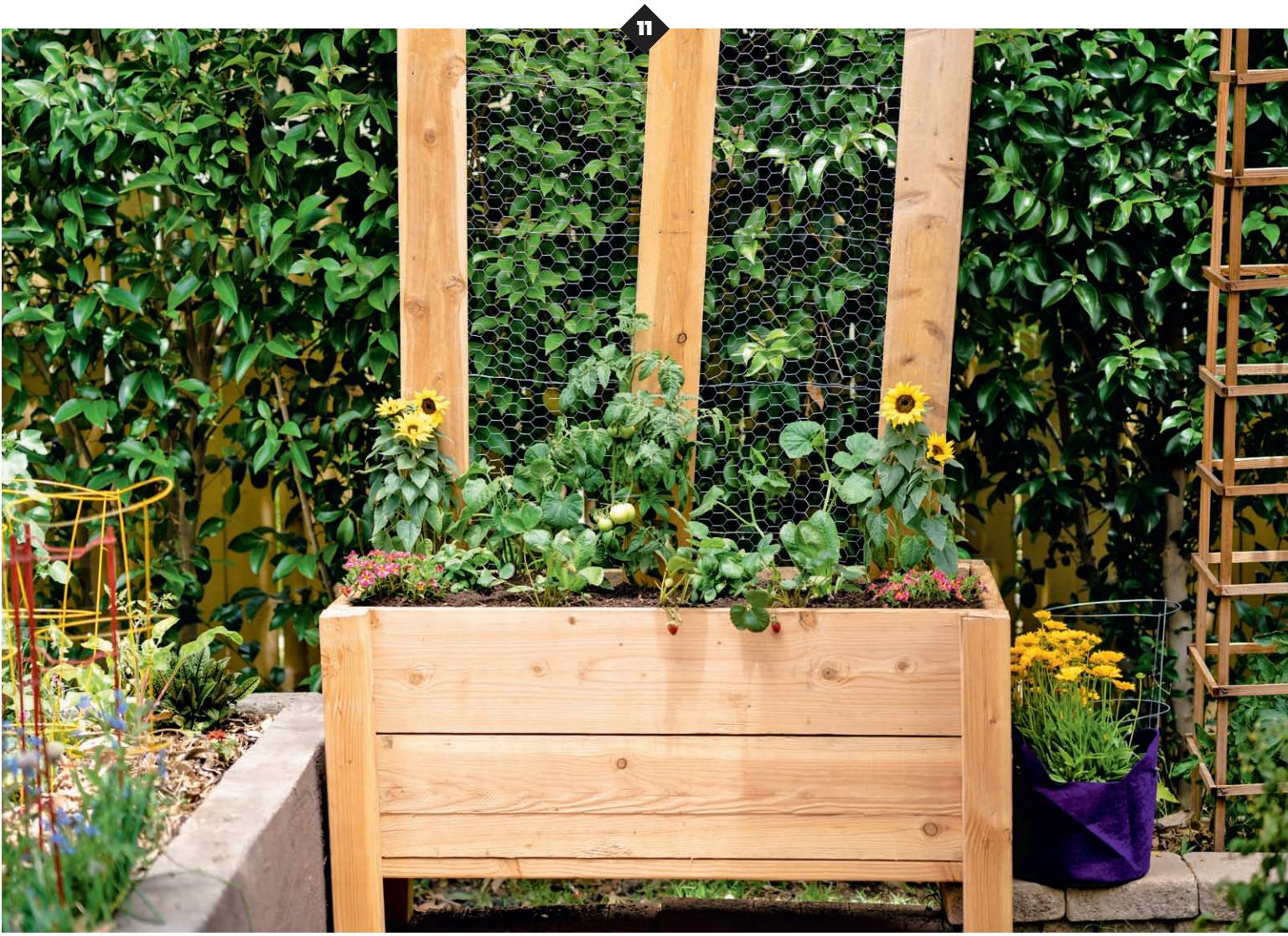
1. Unroll the chicken wire to a 44-inch (1.1 m) length securing it at each end with bricks so it doesn't pop up.
2. Cut two 44-inch (1.1 m) lengths of chicken wire with wire cutters.





STEP 2: Staple the chicken wire to the fence slats

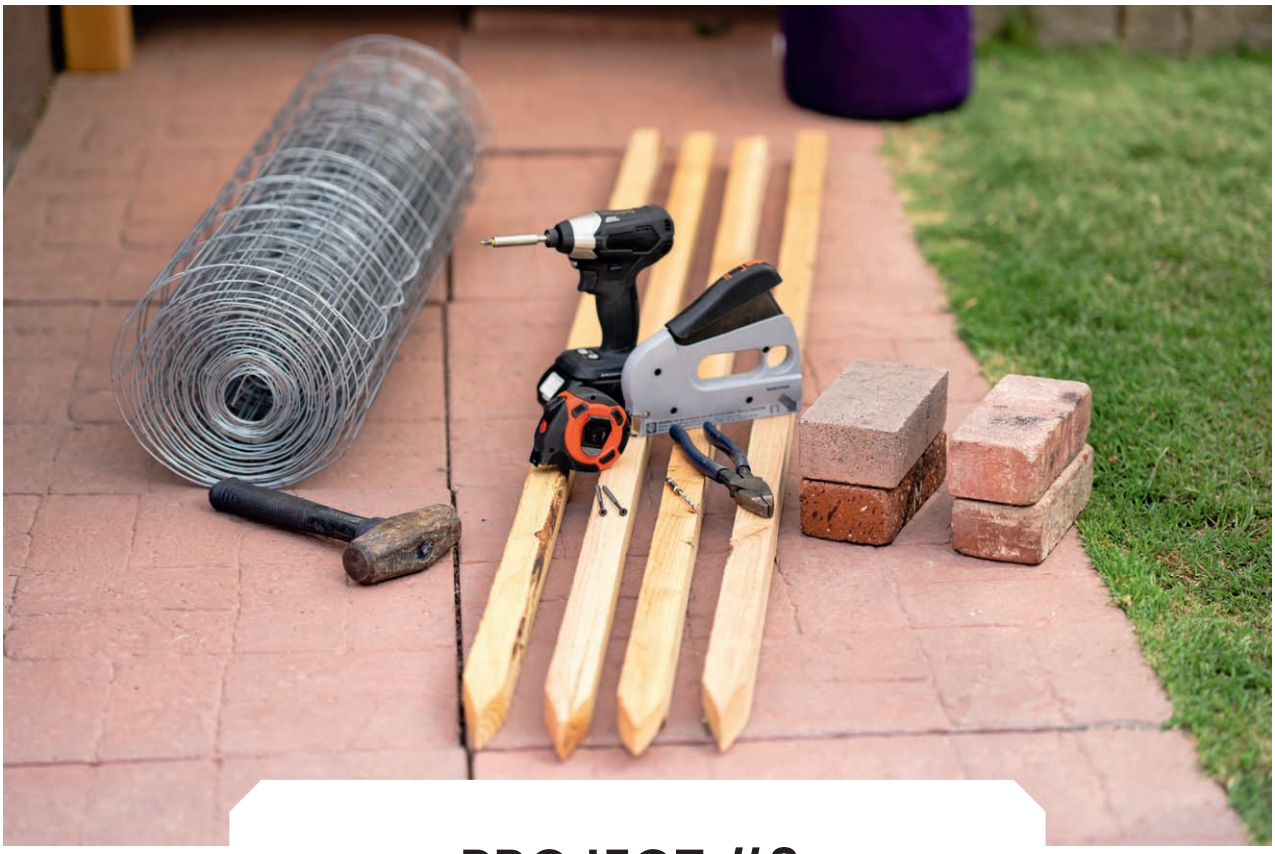
3. Place two wood fence slats 4 feet (1.2 m) apart.
4. Place the third fence slat in the middle of the first two.
5. Staple the first piece of chicken wire to the first fence slat at every other hole in the chicken wire.
6. Staple the first piece of chicken wire to the middle fence slat at every other hole in the chicken wire, stretching the wire tight as you staple it.
7. Repeat for the third fence slat.
8. Lay the second piece of chicken wire over the first piece of chicken wire (and the fence slats).
9. Staple the second piece of chicken wire to all three fence slats.



STEP 3: Install the trellis

10. Using a heavy-duty hammer, carefully (so the fence slats don't split) pound the fence slats into the soil at your raised bed. This trellis can be installed inside the raised bed or outside, depending on your preference. The fence slats can also be secured to a wooden raised bed with screws if you wish.

11. Plant and enjoy!



PROJECT #3:
A-Frame Trellis

Another quick and simple project, this A-frame trellis is super sturdy and easy to customize using different lengths of pointed garden stakes. Place this beauty at the center (or at the end) of a garden bed. Tall A-frames can be used to create a tunnel over two garden beds when planted with quick climbers like runner or pole beans, miniature pumpkins, butternut squash, or compact watermelon. Vary the wood and type of wire fencing used to create a variety of these trellises and use them all over your garden.

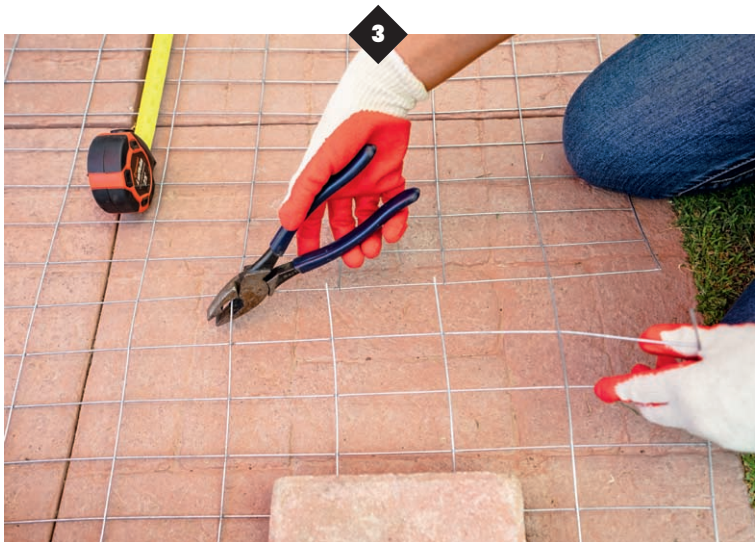
These plans are for a trellis that is 6 feet × 3 feet (180 × 90 cm). Adjust the size as desired for a custom fit.

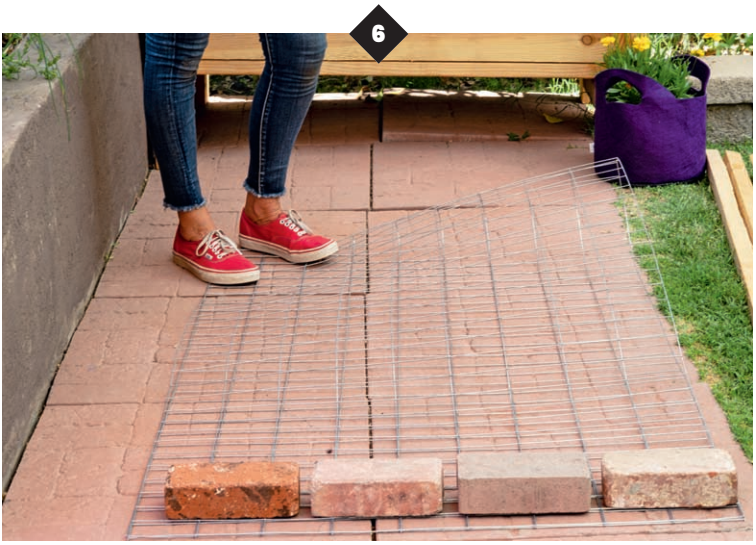
Supplies for an A-Frame Trellis:

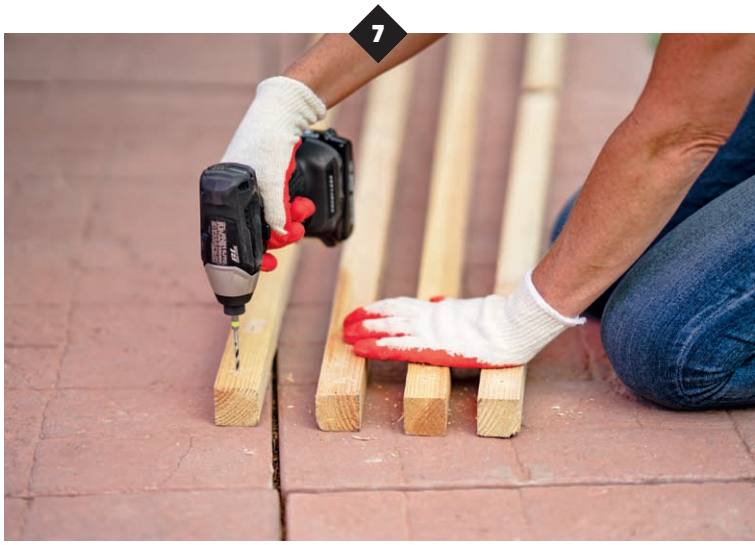
- Four 6-foot (1.8 m) pointed, heavy-duty, wooden, garden stakes that are 1-2 inches (2.5-5 cm) thick. These can be found in the garden section of a hardware or home improvement store, not in the lumber section.
- One 3-foot (90 cm) wide roll of galvanized wire fencing. You'll need a 10-foot (3 m) long piece, so split a roll with a friend.
- Two 3-inch (7.6 cm) deck screws.
- Four bricks or heavy rocks.

Tools:

- Safety glasses and heavy leather gloves
- Drill with a Phillips head screwdriver bit
- Slightly thinner drill bit (than the deck screws) for pre-drilling the holes.
- Staple gun with staples that are at least ⅜-inch (10 mm) wide.
- Heavy-duty hammer
- Wire cutters
- Tape measure







STEP 1: Cut the wire

1. Wear safety glasses and gloves to protect against sharp edges.
2. Unroll the galvanized wire, securing each end with bricks.
3. Cut a 10-foot (3 m) length with wire cutters.

STEP 2: Fold wire in half and crease it

4. Fold the 10-foot (3 m) length of galvanized wire fencing in half widthwise.
5. Secure the wire fencing at the ends with bricks.
6. Step on the wire to crease it along the folded side. This will form the “A” shape of your trellis.

STEP 3: Pre-drill holes in the stakes

7. Using the thinner drill bit, pre-drill a hole 2 inches (5 cm) from the non-pointed end of each wooden stake.

STEP 4: Attach the stakes

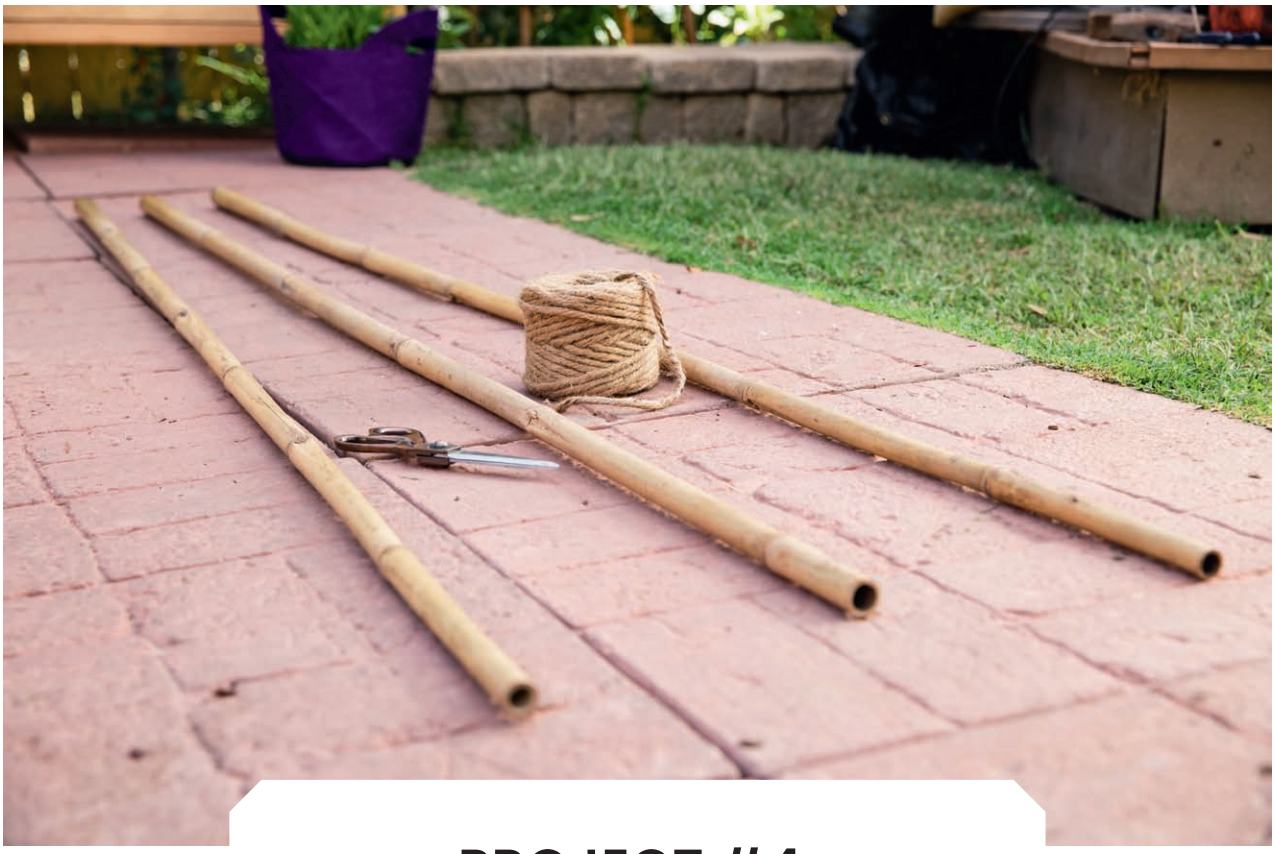
8. Place one stake on top of another, lining up the pre-drilled holes at the two non-pointed ends.
9. Attach the two stakes together with a deck screw at the pre-drilled point 2 inches (5 cm) from the end. Attach the screw flush with the stake, but not super tight as the stakes need to move apart to form the "A" for the trellis.
10. Repeat with the other two stakes.

STEP 5: Attach the wire to the stakes

11. Open up both sets of attached stakes and place them lengthwise on a flat surface, spacing them 3 feet (90 cm) apart. Each set of attached stakes will have an outer and inner side.
12. Unfold the 10-foot (3 m) length of wire fencing and place it on top of the stakes. The long end of the fencing is on the stakes.
13. Position the wire crease at the middle, at the point where the stakes are attached with screws. This will allow space to form the A-frame shape when the project is complete.
14. Place bricks at each end to hold the wire fencing in place while you're stapling down the wire.
15. Secure the wire to the outer stake. For stability, place a staple where each wire mesh intersects on the stake.
16. Then secure the wire to the inner stake. The wire will overlap the stake slightly here, so for stability place two staples where each wire mesh intersects on the stake.
17. Repeat for the second set of stakes.

STEP 6: Install the trellis

18. Stand the trellis upright, bending the stakes where they are attached with screws to form an A-frame shape.
19. Place the A-frame trellis in your garden bed. Using a heavy-duty hammer, carefully pound the stakes into place.
20. Plant and enjoy!

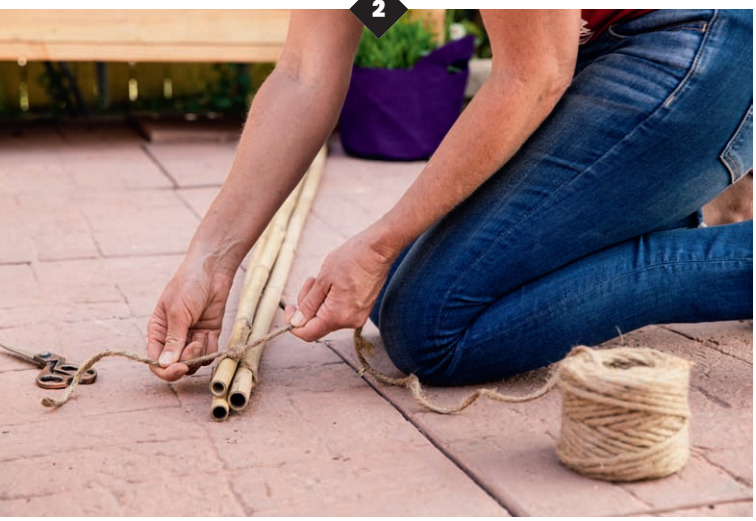


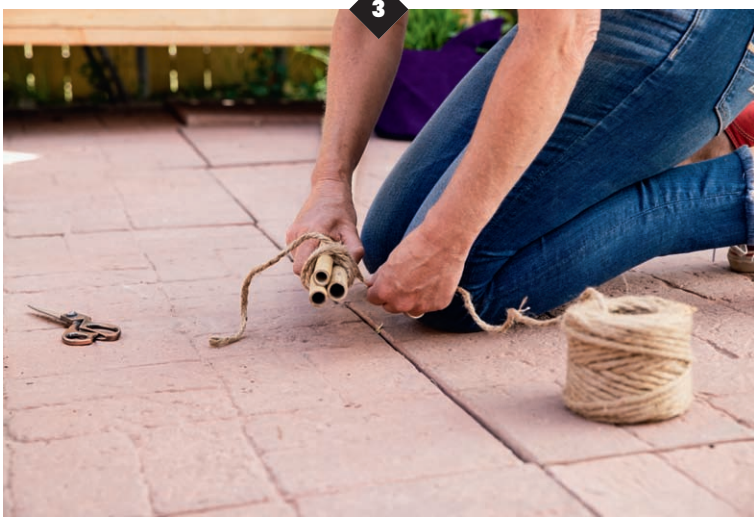
PROJECT #4:
Teepee Trellis

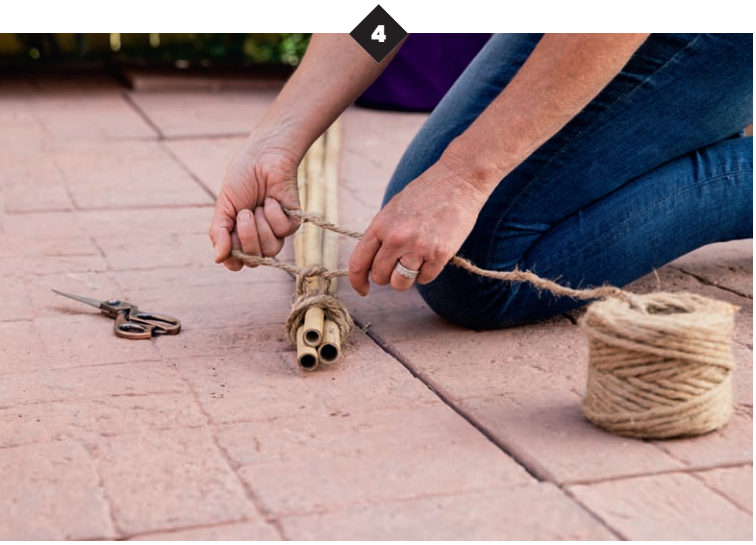
The teepee trellis is one of the quickest and easiest trellises to make. It involves no tools and no wood cutting, and it comes together in minutes. There are many materials you can repurpose to make this beauty—fence slats, tree branches, old deck spindles, PVC pipe, or bamboo poles. Depending on your space and what you're growing, you can make it as tall or as short as you like. Place it in the middle of a garden bed for a center focal point or place it on one side for added charm.

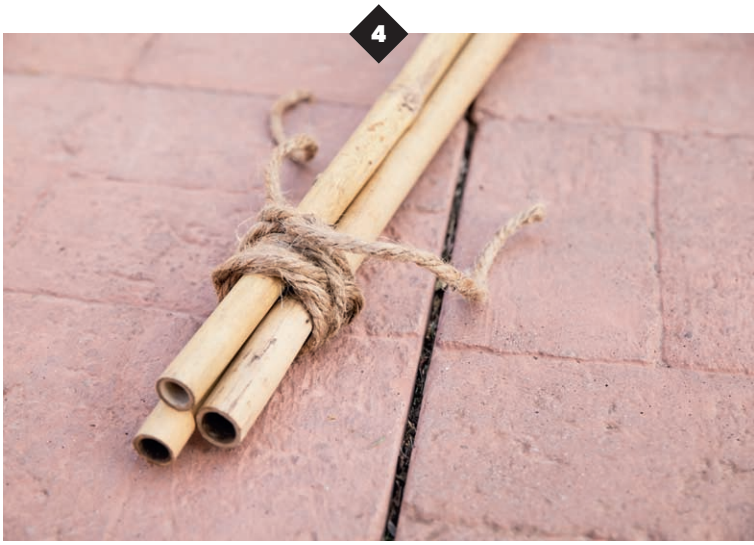
Supplies and Tools for a Teepee Trellis:

- Three poles that are 6 to 8 feet (1.8-2.4 m) long and at least 1 inch (2.5 cm) in diameter. The thicker the pole, the sturdier it'll be. Use additional poles if desired for extra support.
- Twine or tie wire
- Scissors or wire cutters
- Safety glasses









STEP 1: Tie the posts together

1. Lay your three posts together on a clear, flat space.
2. Tie the three posts together at the top with the wire or twine.

STEP 2: Wrap the twine

3. Wrap the twine several times around the pole, pulling it tightly as you wrap.
4. Tie off the end of the twine.

STEP 3: Install

5. Fan out the bottom of the posts in the shape of a teepee and place it in the soil of your garden bed.
6. Plant and enjoy!

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PROJECT #5:
DIY Super Sturdy Tomato Cage

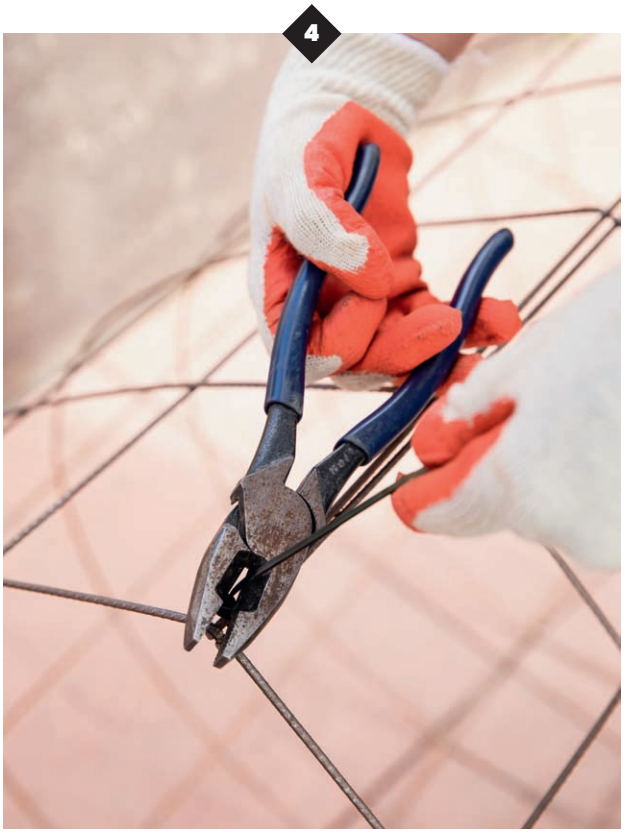
The most popular method of supporting tomatoes is with a tomato cage—a wire enclosure that encircles your tomato plant and supports it as it grows. Tomato cages from the garden center are generally not tall enough or strong enough to support a full-size tomato plant. Sturdy DIY tomato cages are easy and inexpensive to make from sheets of concrete remesh. These tomato cages are around 7 feet (2.2 m) tall and 2 ½ feet (76 cm) in diameter. They will last for years and are sturdy enough to hold up heavy fruits and veggies such as compact watermelon, butternut squash, spaghetti squash, and large tomato plants. And, of course, you can use them for lighter veggies such as cucumbers, peas, or pole beans too.

Supplies for a DIY Super Sturdy Tomato Cage:

- Two concrete remesh sheets that are 42 inches × 7 feet (1 × 2.1 m) in size.
- Sturdy, wooden garden stakes or rebar that are 4-6 feet (1.2-1.8 m) tall.
- Zip ties

Tools:

- Safety glasses
- Heavy garden gloves
- Wire cutters



STEP 1: Make the first concrete remesh cylinder

1. Wear safety glasses and heavy garden gloves to protect against sharp edges.
2. Form a circle with the first sheet of concrete remesh.
3. Secure the ends of the concrete remesh sheet together with several zip ties to form a tall cylindrical cage.
4. Trim the zip ties flush with the tomato cage.

STEP 2: Form a second cylinder from a sheet of concrete mesh

5. Form a cylinder with the second sheet of concrete remesh.
6. Place the second cylinder over the first section of tomato cage, overlapping by one wire mesh square.

STEP 3: Attach the second cylinder

7. Attach the second concrete remesh cylinder sheet to the first cylinder at the overlapping section with several zip ties.
8. Secure the side edges of the second cylinder with zip ties.
9. Trim the zip ties flush with the tomato cage.

STEP 4: Install the trellis

10. Place the cage over your tomato seedlings at planting time, pushing the bottom of the cage into the soil around the plant.
11. Weave a wooden garden stake or piece of rebar through the wire sections of each cage and drive it into the ground with a heavy-duty hammer for extra support.
12. Plant and enjoy!

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Mulching Raised Beds

You've filled your beds to the brim with soil, planted some beginner-friendly veggies, and installed your trellises. And now you're done, right? Not so fast! A mistake many gardeners make is not mulching the top of their raised beds. Think of your raised bed as a layered birthday cake and the mulch is the frosting with a cherry on top. You've got your cake, which is the soil. Your candles are the plants. And the frosting with a cherry on the top is the mulch. You don't want to forget the mulch frosting as this is what elevates your garden cake to the next level. Mulch provides tons of benefits for your garden and makes your job as a gardener that much easier!

Mulch can be any type of organic material that comes from nature. It is layered about 1-3 inches (2.5-7.6 cm) thick on top of your soil. Many different types of organic materials can be used for mulch such as shredded leaves, wood chips, pine needles, straw, or compost. You might have some of these items (like fallen leaves to shred) that can be used as mulch already in your backyard. You can make your own mulch by chipping trees trimmings or composting garden refuse. Or you might be able to get mulch items such as pine needles or straw for free from neighbors and friends who have an excess.

Mulch on your raised beds adds nutrients, helps with weed control, conserves water, and protects your veggies from extreme temperatures.

Benefits of Mulch

Adds nutrients

Mulching tops your raised bed with loads of organic material that will break down over time, providing nutrients for your soil and improving your soil structure. The worms and the soil microorganisms feed on the organic material in mulch. These beneficial soil inhabitants also will help aerate your soil and make it healthier for your plants. As worms burrow their way through the soil, they're also aerating it, which is critical to the plant's roots.

My favorite type of mulch is shredded leaves. I save all the leaves that fall from trees in my yard and ask friends and neighbors to collect their leaves for me too. I like to spread a thick layer over my garden beds, and I'm always amazed at how leaves attract the worms like crazy! Worms love to feed on leaves, and worm waste (called worm castings) is a powerful organic nutrient that helps grow lots of veggies. A win-win!

Controls weeds

Hands up if you love to weed! If your hand is up—come on over to my garden, I can put you to work. I've yet to meet a gardener who loves to weed. Anything that helps cut down on weeding—bring it on! Mulch adds a thick covering over the top of the soil, helps suppress weeds, and keeps weeds from taking over. When you do get weeds, mulch keeps the soil from getting compacted, thus making them easier to pull out.

Conserves water

Mulch reduces water evaporation from the soil. This means that you don't have to water as often—saving you both time and money. Mulch keeps your soil evenly moist and prevents it from drying out, which means more water for the plant to use as needed.

Protects roots from excess heat or cold

Mulch is a lifesaver in a heat wave. It provides a barrier between the hot sun and the soil, regulating the soil temperature, keeping the soil from drying out, and reducing heat stress on the plants. It insulates the roots from excessive heat or excessive cold, protecting the plant from the stresses of extreme weather. In our hot, dry climate in Southern California, summer temperatures often are over 100°F (38°C). A thick layer of mulch over my garden beds can mean the difference between dried out, shriveled up plants or plants that make it through a heat wave and are still producing veggies.

Prevents erosion

A few inches of mulch over the soil helps prevent the soil from washing away in the rain or blowing away in the wind. We don't get a lot of rain here in Southern California, but we do get powerful winds in the fall and winter. My shredded leaf mulch prevents the soil from blowing away and protects the soil and plant roots from the drying effect of the wind.

How to Mulch

After filling and planting your garden bed, it's time to tend to the frosting on top! If you're planting seeds (as opposed to vegetable plants) mulch lightly so the seeds can germinate through the mulch. For seeds, lightly apply a ½ to 1-inch (1.2-2.5 cm) layer of well-shredded mulch to your raised beds. Shred your leaves with a lawnmower or use a weed whacker (string trimmer) and a garden trash can. As the seeds germinate and continue to grow, add an additional 1-2 inches (2.5-5 cm) of mulch around the base of the plants and over the garden bed. If you're starting with vegetable plants, you can spread the mulch thicker. Add 2-3 inches (5-7.6 cm) of mulch around your plants and over the entire top of your garden beds. Water it down to help settle it in and prevent it from blowing away.

To replant the next growing season, simple rake the mulch aside, dig your planting holes, and cover with mulch again after you plant. Add additional mulch as needed.

Shredded leaves are a great source of free mulch.

Watering

The Million-Dollar Question Is . . . How Do I Water My Garden?

Consistent watering is one of the most important keys to a productive garden. Since raised beds sit above the ground, they drain quicker and often dry out faster than in-ground gardens. Some gardeners are fortunate to live where it rains regularly and don't have to worry about watering. However, most of us aren't this lucky. If you've ever wondered, "How do I water my garden?" Take heart, you're not alone.

Without a doubt, this is the million-dollar question—and the one I get asked the most. Watering is where most new gardeners get tripped up. Forget to water, and you end up with stressed, stunted, or worse—dead plants. Conversely, "over loving" your plants by watering them too much can have equally destructive results. Waterlogged soil can cause root rot and makes plants prone to diseases. Knowing when, how often, and how much to water your raised beds can make the difference between having a thriving garden that provides lots of yummy veggies for you eat or having stunted plants that die before you can harvest anything. Don't worry, there's no need to guess how to water your raised beds! This section provides loads of tips and tricks about how to water your raised beds effectively and efficiently—in a way that will help you feel like a veggie growing superstar!

Watering—Not a One-Size-Fits-All Answer

Let's go back to our million-dollar question, "How do I water my garden?" I wish there was a "one-size-fits-all" answer to this question. But the answer will be different for each garden depending on your growing conditions, the type of soil that's in your raised beds, and the weather.

HOW DO I KNOW WHEN TO WATER?

No matter what the particular variables are in your garden, you can easily learn how often to water your raised beds by checking your garden frequently (daily during the hot, summer months) to see if it needs water. Don't look at this as a chore—take a garden walk and enjoy the time nurturing your beautiful plants. You'll love this daily dose of garden therapy and at the same time stay in tune with your specific watering needs—which can make or break your garden.

To check the water content of your soil, use your finger as a moisture meter. Simply stick your finger in the soil of your raised bed as far as you can reach in. If the soil feels wet, you don't need to water. If it feels dry, water your plants. A general rule of thumb is that the soil should feel moist like a wrung-out sponge, but not soggy wet, and not bone dry.

Many plants will wilt during the heat of the day as a way to protect themselves from losing moisture through their leaves. Don't panic and flood your plants with water. Wilting isn't always an indication that water is needed. Checking the soil is the true moisture test! With a little practice, you'll soon be able to easily identify whether or not your precious plants need a drink and can plan your watering schedule accordingly.

WHAT TIME OF DAY SHOULD I WATER?

During the hot, summer months avoid watering in the heat of the day. Water in the early morning or in the early evening when temperatures are cooler. This reduces the amount of soil water evaporation and keeps your plants hydrated when they need it the most—during the hottest part of the day.

above Check your garden soil daily with your finger. If it feels dry, water your plants. If it feels wet, you don't need to water.

below Water in the early morning or in the early evening so plants stay hydrated during the hottest part of the day.

Water slowly and deeply at the base of your plants so the water gets to the roots— where your plant needs it the most.

HOW OFTEN SHOULD I WATER?

Rather than many quick watering sessions, it's best to water your garden slowly, deeply, longer, and less frequently. Deep watering at the base of your plants encourages them to stretch their roots down deep to take up water and nutrients and will allow you to go longer between waterings. The deeper the roots, the stronger, sturdier, and more productive the plant will be. More roots = more fruit (or veggies) which will make you a happy gardener.

Watch out, overhead watering should be avoided for two reasons. It increases the chance of fungal and bacterial leaf diseases (especially if watering late in the evening and leaves stay wet for a long time) and often water evaporates before it gets to the roots. If you're using a watering can or a hose and nozzle, water slowly at the base of your plants and let the water sink in. Then repeat the process, letting the water sink again so that it gets all the way down to the roots.

Drip Irrigation—Set It and Forget It

Drip irrigation is a method of watering your garden through a network of hoses, tubes, and emitters. The system takes the water from a hose bib or sprinkler valve and gets it to the base of your plants in the garden bed, allowing you to water multiple plants all at once. Drip irrigation is easy to install, inexpensive, and can be easily connected to a timer so you can automate the watering of your entire garden. If you have a busy schedule or are going on vacation, consider installing a drip irrigation system with a timer to automate watering.

Five Benefits of Drip Irrigation

Gets water to the roots. Drip emitters allow the water to seep slowly and deeply into the soil, getting to the root zone where the plants need it the most.

Saves water and money. Water drips directly into the soil instead of sitting on the leaf surface of the plants where it can quickly evaporate. Drip irrigation reduces water usage resulting in a cost savings on your water bill.

Versatility. Drip irrigation is inexpensive and easy to install. It can be used in containers, with raised beds, or set up in an in-ground garden. Drip irrigation can also be expanded as you add additional growing space.

Reduces disease. The drip emitters can be placed to target the roots of your plants, reducing diseases and fungal growth on the leaves.

Saves time. Automating a drip irrigation system with a timer saves hours a week—a win-win all the way around.

Automate watering with a drip irrigation system. It saves time and takes the guesswork out of watering your garden.

Drip irrigation takes the guesswork out of watering.

Feeding Your Raised Beds

The key to keeping your garden pumping out veggies is to feed it quality, organic nutrients on a regular basis. Just like our bodies get depleted and need food, so do our raised bed gardens. In fact, raised beds need replenishing more frequently than in-ground gardens, as they have more drainage due to their raised nature and consequently nutrients tend to leach out quicker.

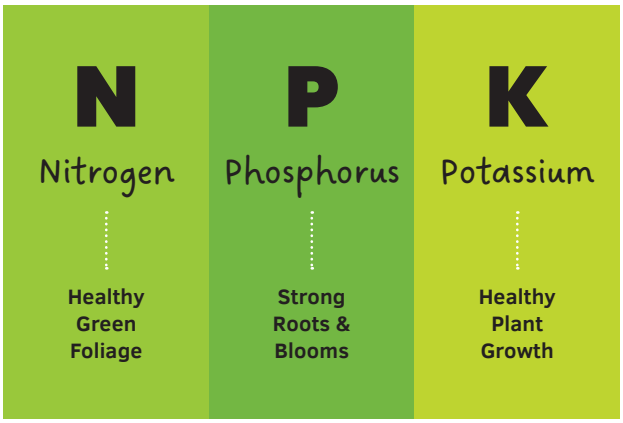
As plants grow, responding to the high-quality nutrients in the soil, the roots will eventually take up most of the available nutrients from the soil. These nutrients will need to be replenished on a regular basis so your veggies will thrive. Healthy, vibrant plants will produce many more veggies for you to eat, and they won't attract as many pests or be as susceptible to diseases.

The Low Down on Fertilizer

Fertilizer feeds your plants the critical nutrients they need to grow. The most important nutrients for your garden are nitrogen (N), phosphorus (P), and potassium (K), which is what the "NPK" stands for on a fertilizer package. Nitrogen encourages green leafy growth, phosphorus grows healthy roots and blossoms, and helps with fruit production, and potassium helps plants fight disease and keeps them healthy.

You might have often wondered what the numbers on a fertilizer package stand for. Let's de-mystify it. For example, the numbers 7-5-7 on a package of fertilizer refer to the NPK percentages in the fertilizer. This means that the fertilizer has 7% nitrogen (by weight), 5% phosphorus, and 7% potassium. The remaining 81% of the fertilizer are filler ingredients, or components that are used to disperse the fertilizer (such as water in liquid fertilizers).

Use organic fertilizers that won't burn your plants. Always use them according to directions on the package and don't overdo it. It's very tempting to over-love your plants by feeding them too much. Fertilizer is not a "fix all" for every garden issue but is very beneficial when applied correctly and on a schedule.



My Favorite Fertilizers

There are a million fertilizers on the market, and it's easy to get overwhelmed when you go to the garden center to try to select the one that is right for your garden. I like to keep it simple when it comes to feeding my garden and use just a few products that I've had good results with over time. This eliminates the need to have a storage shed full of garden products, keeps fertilizing simplified, and is more cost-effective. Fertilizers generally fall into 2 different categories: time released (feed your plants over time) and water soluble (nutrients immediately available to plants).

TIME RELEASED FERTILIZERS—MY TOP 3

Compost

Not only is compost free if you make it yourself, but it is a gentle, organic, balanced, slow-release fertilizer that feeds your garden over the growing season and won't burn your plants. Take care if you're using manure in your compost pile, make sure it's fully composted before adding it to garden beds, as it can burn your plants if it is not fully broken down.

Worm castings

Worm castings are the waste product that worms excrete after feeding on organic matter and are packed full of nutrients that will help your garden thrive. They also encourage the soil biology, beneficial bacterial and microbes, that help plants fight off pests and disease. Not only are the nutrients in worm castings immediately available but they also feed your plants over time. Worm castings can be produced in your own DIY vermicomposting (worm composting) bin or purchased from many retailers. However, not all worm castings are created equal. I've used VermisTerra Earthworm Castings in my garden for many years with great results. VermisTerra earthworm castings are aged 7-10 years which makes them stable, and readily available for the plant to absorb. These VermisTerra organic soil amendments do not contain any fillers, just pure earthworm castings, which is what makes them so effective.

Granular or pelleted organic fertilizers

Mix into the soil at the time of planting, along with compost and worm castings (my personal preference for time-release nutrients), or water-soluble fertilizers for a quick boost.

WATER-SOLUBLE FERTILIZERS—MY TOP 3

Water-soluble fertilizers are usually concentrated and come in liquid or powdered form. When added to water, they dissolve quickly, and the nutrients are immediately available to your plants. Water-soluble fertilizers are generally applied to your plants during a regular watering session.

Worm casting tea

Worm casting tea is a water-soluble fertilizer made from worm castings and can be purchased or made yourself. It has the same benefits of worm castings, but in a liquid form so the nutrients are immediately available to your plants. It's a very gentle fertilizer with a low NPK ratio. It won't burn plants (read the label for instructions on whether it can be used on seedlings) and provides slow and steady nutrients when used on a regular basis. The main benefit of worm casting tea is that it's chock full of beneficial bacteria which helps make your plants healthier, so they are more prepared to fight off pests and disease.

Worm casting tea can be made from your own vermicompost (worm composting) bin or purchased from many retailers. I've used VermisTerra worm casting tea in my garden for many years with great results. It gives my plants an immediate boost, you can almost see them perk up right before your eyes.

Compost (top), worm castings (bottom left), and pelleted or granular fertilizer (bottom right) are time-released fertilizers that will feed your garden over several months.

Add worm tea or liquid plant food to a watering can before irrigating plants.

Good Dirt plant food

Along with worm casting tea, Good Dirt is my favorite liquid fertilizer, and one I've also used for years. With an NPK ratio of 10-4-3, Good Dirt gives a great boost to plants at the beginning of the season because of the higher nitrogen percentage. It works great for keeping leafy crops producing. And in the mid-season, after the first round of veggie harvesting, it works to give a boost to the plant for a second go around. It's available as a concentrated formula with instructions to use capfuls (or tablespoons) for easy measuring into watering cans. Or hook up the Good Dirt hose-end sprayer attachment to a hose for easy and quick application over large areas.

Fish emulsion

Fish emulsion (or fish fertilizer) usually comes in concentrated form and is diluted in water. High in nitrogen, fish fertilizer is usually applied during the beginning few months of a plant's life to give a good boost for more leafy growth and to get the plant established. While it is very inexpensive to use, don't go overboard. Beware, fish emulsion has a very strong odor and sometimes attracts critters that you don't want visiting your garden!

Don't Over-Love Your Plants

Having a regular fertilizing schedule (and putting it on your calendar) gives you the best chance of growing lots of veggies! Your regular fertilizer schedule is not a carved in stone routine, of course, but a general time frame. Keep a watchful eye on your plants to see what their needs are and adjust your schedule accordingly.

Feed your garden regularly and it will reward you with lots of veggies and thank you for your investment of time, energy love, and nurturing.

CaliKim's Fertilizing Schedule

Fertilizing at Planting Time

FOR GENERAL PLANT HEALTH . . .

For transplants add ¼ cup (60 ml) earthworm castings and/or a handful of compost to the planting hole.

When planting seeds sprinkle earthworm castings over the top of the soil after sowing.

FOR LEAFY, GREEN GROWTH . . .

Use a high nitrogen fertilizer—either the granular *or* the liquid option below (but *not* both).

Option #1: Granular or pelleted organic

Lightly sprinkle a granular or pelleted organic fertilizer over the garden bed after seeding or add the granular fertilizer to the planting hole for transplants. Follow the package directions.

Option #2: Liquid water soluble

Make your own plant fertilizer cocktail. Fertilize your plants with *one* of the following:

(1) Earthworm tea and Good Dirt Plant Food

(2) Earthworm tea and fish fertilizer

Follow the package directions and dilute the fertilizer concentrates by the recommended amount in a watering can. Drench the soil at the base of your plants with the plant fertilizer cocktail, let it soak in, and water again until the soil is moistened down to the roots.

For transplants water thoroughly with one of the two plant fertilizer cocktails.

For seeds, don't drench the soil with the plant fertilizer cocktail at sowing time. Instead, feed your seedlings with one of the two plant fertilizer cocktails once the plants have two sets of true leaves.

Feed your vegetables with a water-soluble fertilizer on a regular schedule throughout the growing season.

Option #1: Granular or pelleted organic

Option #2: Liquid water soluble

Fertilizing One Month After Planting

At this point your plants will have used up a good amount of nutrients and will need a little boost to help them keep growing, stay healthy, and begin their flower and fruit production. Use one of the liquid plant fertilizer cocktails. Fertilize well with *one* of these:

(1) Earthworm tea and Good Dirt Plant Food

(2) Earthworm tea and fish fertilizer

Follow the package directions and dilute the recommended amount of each concentrated fertilizer with water in a watering can. Then drench the soil at the base of your plants, let it soak in, and drench again until the soil is moistened down to the roots.

Fertilizing Two Months After Planting (A Mid-Season Boost)

At this point, two months after planting, your plants likely are starting to bloom and possibly are beginning to grow tiny veggies or fruits—it's an exciting time! Don't use high nitrogen fertilizers now as you want the plant's energy to go into flowering and fruiting, not into producing leafy growth. Water with a low nitrogen fertilizer such as earthworm tea and dig a handful of compost and/or earthworm castings around the base of your plants (called "top dressing"). Continue to use high nitrogen fertilizers on veggies that are grown for their leaves such as the leafy greens and herbs.

(continued)

One month tomato

Mid-season garden bed

Fertilizing Three Months After Planting (To Keep Plants Going Strong)

Many plants are likely producing veggies now (three months in) and you're enjoying your first yummy harvests! The fertilizer goal at this time is to encourage continued flowering and fruiting, keep plants healthy, and manage any disease that might start to infect your plants. Use low nitrogen fertilizers and those that will encourage overall good plant health. Water with earthworm tea to encourage and strengthen the beneficial soil bacteria and keep your plants healthy.

TO REJUVENATE HEAVILY PRUNED PLANTS . . .

Apply one of the two high nitrogen plant cocktails listed below to plants that are heavily pruned (due to disease) to encourage additional leafy growth.

Apply *one* of the following two plant fertilizer cocktails:

(1) Worm tea and Good Dirt Plant Food

(2) Worm tea and fish fertilizer

Follow package directions and dilute the recommended amount of each concentrated fertilizer with water in a watering can. Drench the soil at the base of your plants, letting it soak in, and drench again until the soil is moistened down to the roots.

Continue to use high nitrogen fertilizers on veggies that are grown for their leaves such as leafy greens and herbs.

Fertilizing Four Months After Planting (For an End-of-Season Boost)

At this point, plants might be coming to the end of their growing season. So, it's time for an end-of-season boost to encourage new growth and possibly get a second round of harvests before the plants reach the end of their life.

Add ¼ cup (60 ml) worm castings and/or a handful of compost to the planting hole (for vegetable transplants) or sprinkle over the top of the soil.

FOR LEAFY, GREEN GROWTH . . .

Use a high nitrogen fertilizer for veggies grown for their leafy, green growth.

Option #1 Granular or pelleted organic

Granular or pelleted organic fertilizers should be lightly sprinkled over the garden bed or add to the planting hole for transplants. Follow the package directions.

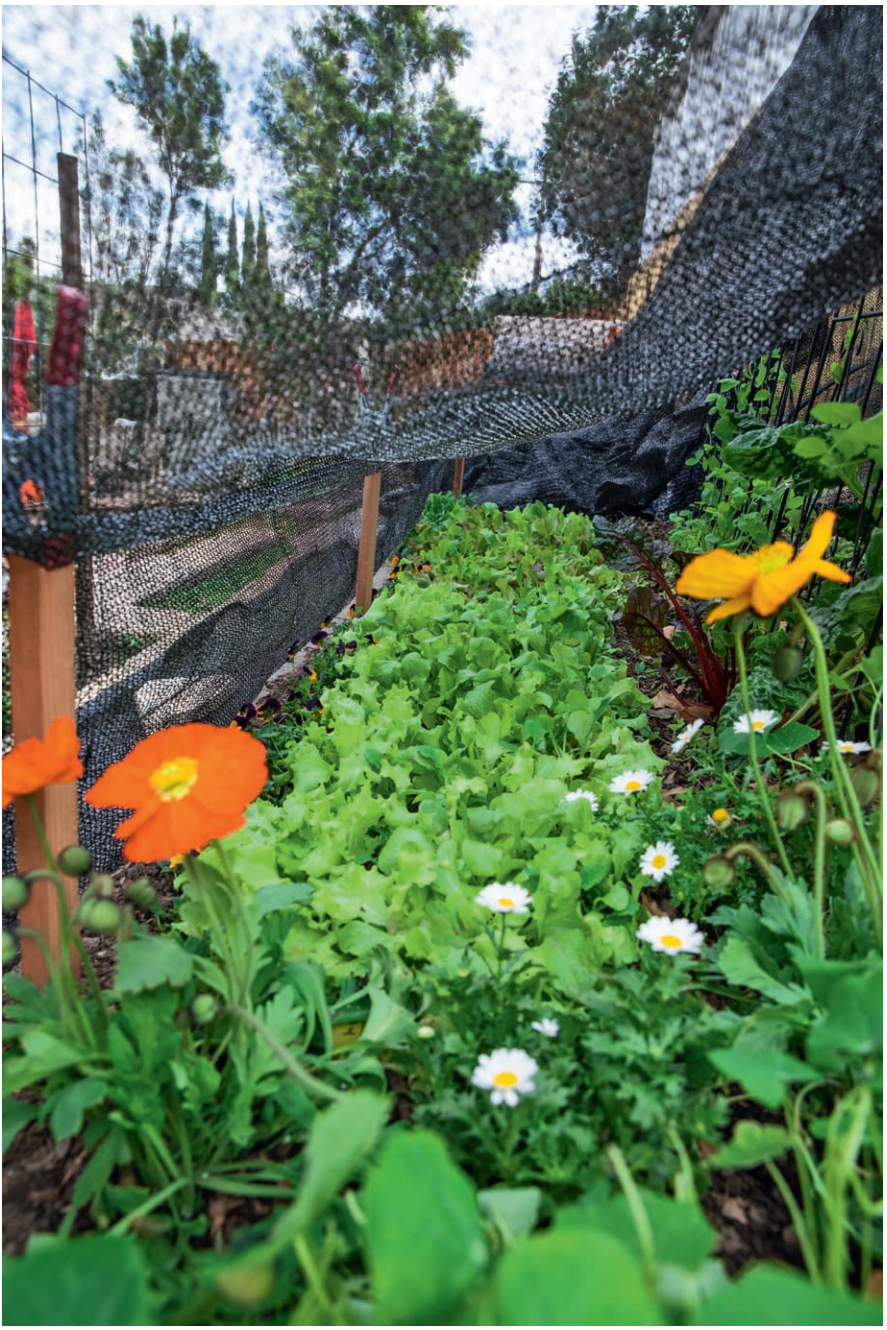
Option #2 Liquid water soluble

Make your own liquid plant fertilizer cocktails. Fertilize well with *one* of the following:

(1) Earthworm tea and Good Dirt Plant Food

(2) Earthworm tea and fish fertilizer

Follow the package directions and dilute the recommended amount of each concentrated fertilizer with water in a watering can. Then drench the soil at the base of your plants, let it soak in, and drench again until the soil is moistened down to the roots. The liquid fertilizer cocktails will provide nutrients quicker to your plants and give a faster end-of-season boost.



Grow your vegetables under cover to shield them from cold or hot weather, pests, or animals.

Raised Beds Under Cover—Protecting Your Investment

Today is a big day! Your raised beds are planted, trellises are made, and you've mulched, watered, and fed your plants. Finally, after months of waiting, it's time to reap the rewards. You step outside early in the morning, eagerly ready to start harvesting your scrumptious kale, lettuce, tomatoes, and cucumbers. Your mouth is watering in anticipation of that first bite of your delectable garden-fresh salad. As you walk toward your garden, something looks terribly wrong, and your heart sinks. Half-eaten tomatoes are hanging from the vine. Cucumbers that hung beautifully from the trellis the night before now lay on the ground, smashed. Lettuce that was colorful and leafy last night is now munched on and riddled with holes. You groan in dismay—how could this have happened?

Growing your own food brings a one-of-a-kind satisfaction. But let's keep it real—growing an organic garden has challenges right along with the high points. Heat waves, drought, wind, rain, frost, pests, and critter attacks can take a devastating toll on your vegetable garden and leave you feeling discouraged. Don't worry, there's a solution! An effective strategy to protect the time, money, and emotional investment you have made in your garden is to grow your raised beds under cover. Most gardens will benefit from a cover of some kind at some point during the growing season anyway. The type you use, and when you use it, will depend on what you are protecting against.

Weather Protection

When an unexpected late spring frost endangers your baby squash seedlings or a summer heat wave threatens to boil your tomatoes on the vine, here are a few simple covers you can easily (and quickly) make to protect your veggies.

DIY COLD WEATHER COVERS

Protect plants from light frosts or chilly nights with a DIY cold weather cover. A simple cover such as an upside-down plastic storage bin, bucket, or milk jug (with the bottom cut out), will work to shield individual plants and small seedlings from cold temperatures and chilling winds.

To cover an entire garden bed, use my favorite quick and easy DIY cold weather cover:

- Pound stakes into the ground in each corner of the garden bed, and every 2-3 feet (60-90 cm) around each side. For garden beds that are larger than 2 feet × 4 feet (60 × 120 cm), place a support stake in the middle of the garden bed. The stakes should be at least 2-3 inches (5-7.5 cm) taller than the tallest plant in your raised bed.
- Drape a thick quilt, a store-bought, insulating, frost blanket, or sheet of thick opaque plastic (at least 6 mil thickness) over the stakes and over your plants.
- Secure the cover in place by clipping it to the stakes and placing bricks or stones around the bottom edge of the cover to hold it in place around the raised bed frame.

Remove the cold weather cover (or open one end to vent it) during the day when the sun comes up and/or when the temperature rises above freezing, as the air will warm up quickly inside the cover and plants can overheat.

Cover new seedlings with a bucket or bin to protect them on cold nights.

left Close the end of your DIY cold weather cover to keep the chilly air out.

below Secure thick plastic sheeting by clipping it to stakes and place bricks around the edges of the raised bed to keep your plants cozy inside.

right Make a handy, quick cover with clips, stakes, and shade cloth to keep plants cooler during a heat wave.

DIY HOT WEATHER COVERS

Most veggies will experience heat stress in temperatures over 90°F (32°C). Create a cover for your plants to protect them from the heat the same way you make a cold weather cover (see above), with one exception: use mesh shade cloth instead of plastic.

Shade cloth has small holes that permit some sunlight to get through, but it blocks a percentage of the sun's rays so that heat is not as intense on the plants below. Shade cloth lowers the air temperature by 10-15°F (5-8°C) underneath and reduces heat stress on your plants. It's inexpensive and available from many retailers. I use a 40–60 percent sun blocking shade cloth to protect my veggies during the hot Southern California summers. During the winter months in mild winter climates, when the temperature spikes on random 85°F (29°C) days, a piece of shade cloth floated over garden beds will safeguard heat-sensitive, cool-weather crops such as lettuce, broccoli, peas, and spinach. Keeping them shaded on hot days slows down bolting and flowering so you can enjoy your harvests longer.

left Uncover or vent your cold weather cover on a sunny day when the temperature is above freezing so your plants don't overheat.

On hot days, cover lettuce which loves cool weather to keep it from bolting and turning bitter—so you can enjoy harvesting it longer.

Use floating row covers made from lightweight fabric to keep chewing and insect pests from nibbling on your crops.

In a pinch, if you don't have any shade cloth, use an old bedsheet—it won't allow your garden to get *any* sun, but it's better than having fried plants. Or get creative with what you have around the house—sheer curtains or tulle fabric will also do the shading job just fine. Remove the hot weather cover once temperatures drop below 90°F (32°C) so your garden can enjoy the full benefits of the sunshine.

Pest and Critter Covers

No matter where you live or what you're growing, at some point pests in the form of birds, rodents, deer, squirrels, rabbits, or even your own beloved pets will pay your veggies a visit and potentially wreak havoc in your garden very quickly.

CRITTER COVERS

While frequent visits from larger animals may require permanent fencing, covers made from wire mesh hardware cloth or poultry wire will provide a barrier (and first line of defense) from birds, rodents, squirrels, and even your family pet.

DIY PEST COVER

Covers made from lightweight, breathable material that is tightly woven such as tulle, sheer curtains, or purchased garden or landscape fabric will help block pests from getting to your raised bed plants—yet allows air and sunlight to get through. This type of cover goes a long way towards reducing damage from chewing and sucking insects such as aphids, cabbage loopers, cucumber beetles, squash bugs, and white flies. Covering your garden beds at the time of planting makes a huge difference in how much you harvest from your garden grocery store as opposed to what the pests eat for their lunch.

Drape the fabric (often referred to as a "floating" row cover) over your raised bed, clip it to stakes, and secure it with bricks around the bottom edges of the raised bed to minimize openings where pests can get in. The key for effective pest protection is to cover the garden bed as *soon* as you plant. If you wait too long to put the cover in place, insects will have laid their eggs. When the eggs hatch, the pests will start munching and the pest cover will be ineffective. Remove the covers once the plants begin to flower (to allow for pollination) or when you're ready to harvest.

Raised Bed Under Cover Tool Kit

Basic supplies for your raised bed under cover tool kit:

- Plastic gallon (4.5 l) milk or water jugs
- Plastic 67.6 oz (2 l) soda or water bottles
- Buckets or large, plastic pots
- Large, clear vases to use as cloches (transparent dome plant covers)
- Stakes that are 2-10 feet (60-300 cm) long (for use on varying heights of plants)
- Plastic storage bins of varying sizes
- Plastic sheeting
- Rebar
- PVC pipe (to create arches to float row covers over)
- Shade cloth, floating row covers, landscape fabric
- Old sheets, sheer curtains, tulle, mesh fabric
- Thick wire, clips, bricks, flagstone, large rocks (to secure your covers)

Keep some basic supplies handy to cover your raised beds and protect your veggies from whatever pest comes their way.

Long-Term Soil Maintenance

Once you've filled your raised bed with soil and planted it in your first season, you might not think you need to do anything the second season, right? Yes, most of the heavy lifting *was* done that first season and I promise you, your second season will be a million times easier. However, there are a few things you'll definitely need to do to maintain the health of your soil and keep it productive—each time you plant new veggies in your bed.

Organic matter in the soil will settle and break down over time. And each season your plants will absorb nutrients from the soil. A quick and easy solution to keep your soil fertile from season-to-season is to add a few inches of compost (bagged or homemade) each time you replant the bed. An alternative to compost is to add a soil conditioner, such as my favorite from Good Dirt. This product is a light and fluffy soil additive, packed full of nutrients, that helps aerate your soil by giving your roots room to breathe.

Top off your garden beds every time you plant. This is crucial as soil will settle and nutrients will leach out. This is especially important if you are starting with a less than optimal soil mix (perhaps due to budget constraints) as it will improve your soil for the next season. Work the compost or organic amendment of your choice into the top few inches of your garden bed with a pitchfork.

This can be done at the time of planting or over the winter if your beds are sitting empty. After adding your compost, add a 2–3-inch (5-7.6 cm) layer of shredded leaves or the mulch of your choice to the top of your bed. This will protect your soil over the winter months, break down with the winter snow and rains, and give you a jump on your spring gardening season tasks. When the weather warms up, your beds will be ready to roll with nice, fertile, soil that is ready to plant and be filled with tons of worms!

Now that you know what to plant in your raised bed, let's talk about layouts and planting plans. This will help you decide what to plant and how to arrange the plants, so that you can get the most harvests that you possibly can out of your new raised beds. Here we grow!

5

Layouts and Planting Plans for Your Raised Beds

Here We Grow!

You're in it deep now! You have raised beds that have been built in your outdoor garden space. They're filled with the best quality soil you could purchase, or you used your own compost. You may even have built a few trellises and figured out what watering method you're going to use. Without a doubt, you're dreaming of your new raised beds filled with all sorts of lush, colorful, vibrant vegetables that you simply cannot wait to harvest and bring to the table to make your dream of growing your own garden grocery store a reality.

With so many options now, you probably are wondering what to plant, how to plant it, how to orient your veggies, and what vegetables make good neighbors. You might even be worried about making mistakes that could be devastating to your veggies.

First of all, remember my garden motto? Start simple and expand later. During the first season that you are growing in your new raised beds, focus on mastering the basics. The goal here is longevity. Have some success with a few simple crops, learn some new skills, gain confidence, and then expand your game plan the next time you plant. This is a sure recipe to give you the motivation and inspiration to keep on gardening season after season.

Using Thrillers, Spillers, and Fillers

An easy trick to help plan your raised bed is to think of your plants as either *thrillers*, *spillers*, or *fillers*. The thrillers are the tall, bold, star attractions of the garden like tomatoes, peppers, trellised cucumbers, and sunflowers, and they should have a very prominent spot in your raised beds. The spillers are the trailing plants (nasturtiums, strawberries, sweet alyssum, sweet potato vine, vining squash) that grow best along the edge of your raised bed. And the fillers are the rest of your workhorse veggies and herbs (basil, beans, bush squash, kale, lettuce, zinnias) that fill in the remaining space. When designing your next raised bed, think about your plants as thrillers, spillers, and fillers—making sure you have some of each.

We love colorful salads, so I plant a ton of leafy greens in my garden grocery store.

Ten Planting Plans for Raised Beds

In this chapter, I'm going to share 10 planting plans for raised beds of various shapes and sizes. Use the plans that work best for your climate, available time, and allotted garden space, and remember you can modify the plans to suit your specific needs.

When you're deciding what to plant in your garden, start by asking yourself, "What does my family like to eat?" These should be the first veggies in your garden grocery store planting list. We love salads with lots of different colors, flavors, and textures. So I plant a ton of leafy greens from tangy to sweet, along with every color of the rainbow salad veggies from deep green cucumbers to shining purple tomatoes. We also love the flavor of colorful grilled veggies and eat them nearly every night for dinner in the summer. Thus, I always plant a colorful rainbow of peppers, eggplant, tomatoes, and squash. We don't eat potatoes very often, so I don't include these on my garden grocery store planting list. There's no sense taking up valuable garden real estate with vegetables we're not going to eat.

That being said, each time you plant—experiment, experiment, experiment! I'm a firm believer that there are many ways to garden. There isn't one set gardening method or planting plan is that is right for everyone. The more you try different techniques and change it up by trying new vegetables, the more you'll learn about what works best for your garden. What works best for you will depend on your climate and your family's needs and their food preferences.

LAYOUT #1: Basic Kitchen Garden Grocery Store Using Warm-Weather Veggies

A kitchen garden grocery store raised bed is best grown close to your house so you can pop out quickly to grab herbs and veggies to use in your meals. A manageable size for a kitchen garden is 4 feet × 8 feet (1.2 × 2.4 m) but this can be adjusted to your available space. This is an excellent size and layout for a beginner to start with. Pump up the fun factor in your kitchen garden by growing orange tomatoes, purple peppers, and lovely mini edging zinnias for you and the pollinators to enjoy!

Orient your garden bed with the tallest plants in the back and the shortest in the front, so the tall plants don't shade out the shorter ones. Whenever possible, position your trellis where it is facing the most sun, so your plants get maximum sun exposure and aren't shaded out by the plants next to them.

This Basic Kitchen Garden Grocery Store layout is for warm-weather veggies, herbs, and flowers that will thrive in the summer heat. (See the planting list below for specific vegetable and flower recommendations. Also below is a fall or early spring garden planting plan for cool-weather veggies.) You'll make the most of your space by growing the tall veggies (the "thrillers") such as vining squash and cucumbers up a trellis and installing tall, support cages for the queen of the garden, the tomatoes! The back corners of the bed are great to put in sunflowers to attract the pollinators.

In the middle of the bed, pop in some peppers (both sweet and hot types), as well as some beans as "fillers" for the center of the bed. Other good "filler" options are herbs, dwarf tomatoes, or smaller, bush varieties of squash, such as scalloped squash.

Along the side edges of the bed, you'll plant "spillers" such as succulent zucchini and yellow crookneck squash so that they can spill over the sides of the bed and give everyone a bit more elbow room. Plant more "spillers" along the front of the bed. You can even plant juicy strawberries in the corners and in between some of the taller plants.

Grow a kitchen garden in a raised bed close to your house so you can pop out for a quick harvest.

CaliKim seed collections

Overwhelmed by the choices of which seeds to buy? No worries, I've done the heavy lifting for you. Most of the seeds in the Basic Kitchen Garden Grocery Store Bed are available in CaliKim Seed Collections. My seed collections are handy seed kits grouped by type of vegetable or growing season, to make it easy for busy people to get a garden started. Purchasing my seed collections takes the guesswork out of what seeds to buy and makes it fun at the same time.

CaliKim's Top Picks Plants for a Basic Kitchen Garden Grocery Store Bed

Warm-Weather Vegetables and Flowers

FOR TEMPERATURES OVER 70°F (21°C)

Yellow tomatoes

Chives (shade in warm weather)

Basil: Italian Large Leaf, Genovese, Purple Opal, Thai

Beans: Royal Burgundy (bush), Slenderette (bush), Scarlet Runner (pole or you will need a trellis that is 8 to 10 feet (2.4-3 m) tall)

Cucumbers (trellis): Marketmore, Lemon, Spacemaster, Boston Pickling

Garlic

Kale (cool and warm weather): Red Russian, Blue Scotch Curled, Purple, Lacinato

Peppers (support): Hungarian Hot Wax, Jalapeño, California Wonder, Purple Beauty

Squash (trellis vining varieties, tomato cage bush varieties to conserve space): Waltham Butternut (vining), Black Beauty Zucchini (bush), White Scallop or Patty Pan (bush), Yellow Crookneck (bush)

Strawberries: Quinault, Seascape, Albion

Sunflowers: Lemon Queen, Autumn Beauty, Velvet Queen, Dwarf Sunspot, Black Oil

Tomatoes (trellis): Golden Jubilee (full size), Green Zebra (full size), Sweet 100 (cherry), Tiny Tim (dwarf)

Zinnias: California Giant, Candy Cane, Lilliput (dwarf), Profusion Red (dwarf), Profusion White (dwarf)

Cool-Weather Vegetables and Flowers

FOR TEMPERATURES UNDER 75°F (24°C)

Lettuce is a great addition to your cool-weather Kitchen Garden Grocery Store raised bed.

Cilantro: Slo-Bolt

Kohlrabi: Purple, White Vienna

Lettuce: Black Seeded Simpson, Bronze Mignonette, Paris Island Cos Romaine, Red Romaine, Red Salad Bowl

Onions: Tropeana Lunga (red, full size, bulbing), White Creole (white, full size, bulbing), Evergreen (bunching), He Shi Ko (bunching)

Parsley: Curled, Flat Leaf

Peas (trellis): Sugar Ann Snap, Royal Snow, Little Marvel, Wando (more heat tolerant than other varieties)

Radish: French Breakfast, Easter Egg, Watermelon

LAYOUT #2: Salsa Garden

Theme gardens are a fun and simple way for new gardeners to start gardening in their raised beds. A theme garden focuses on growing a few ingredients for a specific cuisine or recipe and helps avoid getting overwhelmed. This is particularly important if you are just dabbling with growing your own food. One of my favorite theme gardens is a salsa garden! Who doesn't love fresh salsa? Growing and harvesting your own salsa ingredients at the peak of ripeness takes the flavor of fresh, homemade salsa to a whole new level. This garden is perfect for a small space. Kids, new gardeners, as well as seasoned vegetable growers will have a blast with this one—no matter what spicy level you like your salsa!

Even if you're not a salsa lover, the veggies in this garden can be used in other recipes too, making this garden very versatile. All you need for this fun, themed garden is five main ingredients:

- **Tomatoes:** I like a few different colors of tomatoes in my salsa garden.
- **Sweet and hot peppers:** At least two colors and types.
- **Bunching onions, chives, or red (or white) bulb onions:** Chives are quick and easy to grow and take up less space. Bulbing onions will add a stronger onion flavor and make a more colorful salsa.

- **Garlic:** Skip this if you're short on space, as garlic takes a long time to grow to maturity.
- **Cilantro:** Grow cilantro during cool weather.
- **Tomatillos:** I love purple tomatillos. They are so pretty in salsa verde (green tomatillo salsa). Grow them if you have space.

Locate your salsa garden raised bed where it will receive 6-8+ hours of sun each day, as most of these crops are warm-weather loving veggies. The exception is cilantro. It's a cool-weather herb that thrives in temperatures of 75°F (24°C) and below. Once the temperature heats up over 75°F to 80°F (24°C-27°C), cilantro shoots up a tall stalk from the middle of the plant (this is called bolting), the leaves change flavor, and the bolting part starts to flower. The bees love the flowers which brings in the pollinators for the tomatoes and peppers too! And once the cilantro flowers dry, you can harvest the seeds (which is the spice called coriander). Extend the life of cilantro in hot weather by planting it where it will be shaded by the tomato plants (see garden layout), but don't be concerned if it bolts, this is a normal part of cilantro's life cycle.

Tomatoes and tomatillos will be the tallest veggies in this garden bed, so plant them towards the back and use a DIY tomato cage for support (see Chapter 4 for DIY trellises). Peppers grow to about medium height in the Salsa Garden so they should be planted in the middle of the bed, and the shorter veggies (garlic, onions, chives) will be planted in the front and sides of the bed.

Use stakes and trellises for your tomatoes, peppers, and tomatillos to save space and to support the weight of the plant when they're loaded down with yummy salsa ingredients. Pop in a few sunflowers for the pollinators to enjoy in the corners. Your plants will thank you for bringing in the pollinators and the cheery colors of the sunflowers will bring a smile to your face!

My favorite way to make fresh from the garden salsa is to whip up a quick Pico de Gallo recipe. Chop tomatoes, peppers, onions, and cilantro. Then mix everything together. Add a squeeze of fresh lime, salt, and pepper (to taste) and get ready for a flavor explosion!

CaliKim's Top Picks Plants for a Salsa Garden

Warm-Weather Vegetables

FOR TEMPERATURES OVER 70°F (21°C)

Peppers (support): Hungarian Hot Wax (medium heat), Jalapeño (mild heat), California Wonder (sweet), Purple Beauty (sweet)

Sunflowers: Lemon Queen, Autumn Beauty, Velvet Queen, Dwarf Sunspot, Black Oil

Tomatillo: Purple, Verde

Tomatoes (trellis): Roma, Golden Jubilee (full size), Sweet 100 (cherry), Yellow Pear (cherry), Tiny Tim (dwarf)

Cool-Weather Vegetables and Flowers

FOR TEMPERATURES UNDER 75°F (24°C)

Chives (shade in warm weather)

Cilantro (shade in warm weather): Slo-Bolt

Garlic

Onions: Tropeana Lunga (red, full size, bulbing), White Creole (red, full size, bulbing), Evergreen (bunching), He Shi Ko (bunching)

LAYOUT #3: Pizza Garden

Imagine, growing your own pizza garden—another one of my favorite theme gardens and it's a pizza lover's delight. Your garden-fresh pizza will scream with flavor. Imagine making a pizza with a fresh marinara sauce that you just made with your own homegrown cherry tomatoes, aromatic basil, and peppers in a rainbow of colors. Then add thinly sliced, grilled or roasted, pretty purple eggplant and white scalloped squash to your pizza masterpiece. Roast the veggies in the oven or throw them on the grill with a splash of olive oil and your favorite spices to get them ready for the pizza. They will make your garden-fresh pizza over the top delicious. Before you pop it in the oven, top it off with fresh mozzarella cheese sprinkled all over. I guarantee your family will be requesting this scrumptious pizza every Friday night and you'll feel good knowing you grew all the heathy, tasty, ingredients yourself! Other ingredients to consider for your pizza garden are spinach, kale, broccoli, hot peppers, or arugula to add to your pizza pie menu.

If you really want to punch up the fun factor, plant your pizza garden in the shape of a pizza. Build a circular, stacked, concrete block raised bed, such as the DIY Circle Concrete Block Raised Bed plan from Chapter 2. Stack the concrete blocks 2–3 levels high for more soil depth to grow the tomatoes. Plant your tomatoes in the back four slices of the pizza garden. Peppers go in two of the front slices and a squash of your choice can spill over the edge of the other front two slices. The hollow centers of the concrete blocks will provide additional planting space for the basil, oregano, and onions. Spill smaller varieties of bush squash (such as white, green, or yellow scalloped patty pan) over the edges as well. Plant a few nasturtiums or other edible flowers to bring the pollinators to your garden and add zip to your pizza!

CaliKim's Top Picks Pizza Garden

Warm-Weather Vegetables

FOR TEMPERATURES OVER 70°F (21°C)

Basil: Genovese, Italian Large Leaf

Eggplant: Long Purple, Black Beauty

Oregano

Peppers (support): California Wonder (sweet), Purple Beauty (sweet), Cubanelle (sweet), Jalapeño (mild heat)

Squash: White, Green, or Yellow Scalloped

Tomatoes (trellis): Roma, Amish Paste, Marglobe, Golden Jubilee (full size), Yellow Pear (cherry), Tiny Tim (dwarf)

Cool-Weather Vegetables and Flowers

FOR TEMPERATURES UNDER 75°F (24°C)

Arugula

Broccoli: Waltham, Purple Sprouting

Nasturtiums: Jewel Mix, Alaska Red Shades

Onions (cool weather): Tropeana Lunga (red, full size, bulbing), White Creole (red, full size, bulbing), Evergreen (bunching), He Shi Ko (bunching)

left You can't beat garden-fresh basil to top off a garden-fresh pizza!

LAYOUT #4: Salad Station

No doubt about it, a garden-fresh salad is one of the easiest, and the most pleasurable meals you can grow. If you've never grown anything before, and are starting with just one raised bed, start with a salad station.

Salad station raised beds can be grown any time of the year. Cool-weather greens such as arugula, mustard greens, spinach, and lettuce thrive in temperatures below 75°F (24°C) and will take frost like a champ! Grow your cool-weather greens in early spring or fall once the heat of summer is gone. These cool weather lovers grow well in the winter in temperate climates, such as where I live in Southern California. In cold winter climates, lettuce can be grown under cover (see DIY Cold Weather Covers in Chapter 4) to protect it from hard freezes. When the weather heats up over 80°F (27°C), shade your cool-weather greens to keep extending the harvest and start growing heat-tolerant varieties of greens, such as kale, chard, New Zealand and Malabar spinach, and collards. You can grow a few salad toppings in your salad station too. Cool weather options are peas, radishes, dill, and edible flowers such as nasturtiums and violas.

Warm-weather topping favorites to include are delectable cherry tomatoes (Yellow Pear and Tiny Tim are a few of my favorites), sweet peppers (such as California Wonder, Purple Beauty), basil, chives (chive flowers are delicious and pretty too!) and zinnias. Plant different colors and varieties of greens to give your salad station a diversity of flavor and giant splash of color.

Grow your salad station in any size of raised bed you wish, below is the plan for a raised bed that is 4 feet × 4 feet (1.2 × 1.2 m). A concrete block raised bed would work great for a salad station—with extra planting space in the hollow block centers allowing you to grow more garden-fresh goodness to harvest, eat, and share.

CaliKim's Top Picks Salad Station

Warm-Weather Vegetables

FOR TEMPERATURES OVER 70°F (21°C)

GREENS

Chard: Ruby Red, Rainbow, Bright Lights, Swiss

Kale (warm and cool weather): Red Russian, Blue Scotch Curled, Purple, Lacinato

Spinach: New Zealand, Malabar (trellis)

HERBS

Basil: Italian Large Leaf, Genovese, Purple Opal, Thai

TOPPINGS

Cucumbers (trellis): Marketmore, Lemon, Spacemaster, Boston Pickling

Peppers (support): California Wonder, Purple Beauty, Cubanelle

Tomatoes (trellis): Golden Jubilee (full size), Green Zebra (full size), Sweet 100 (cherry), Tiny Tim (dwarf)

EDIBLE FLOWERS

Zinnias: California Giant, Candy Cane, Lilliput (dwarf), Profusion Red (dwarf), Profusion White (dwarf)

Cool-Weather Vegetables

FOR TEMPERATURES UNDER 75°F (24°C)

GREENS

Arugula

Lettuce (cool weather): Black Seeded Simpson, Bronze Mignonette, Paris Island Cos Romaine, Red Romaine, Butterhead Bibb, Red Salad Bowl

Mustard Greens (cool weather): Red, Green Wave

Spinach: Bloomsdale, Galilee

HERBS

Alliums: Chives (shade in warm weather), Garlic

Dill: Mammoth, Bouquet

TOPPINGS

Onions (cool weather): Tropeana Lunga (red, full size, bulbing), White Creole (red, full size, bulbing), Evergreen (bunching), He Shi Ko (bunching)

Peas (cool weather, trellis): Sugar Ann Snap, Royal Snow, Little Marvel, Wando (heat tolerant)

Radish (cool weather): French Breakfast, Easter Egg, Watermelon

EDIBLE FLOWERS

Nasturtium: Jewel Mix, Alaska Red Shades

Violas: Swiss Giant, Celestial Blue

LAYOUT #5: Herb Garden

A kitchen herb garden is a chef's delight! Even if you're not a gourmet chef (I'm certainly not. I keep it as simple as possible in the kitchen), using fresh herbs makes any recipe explode with flavor. Herbs are easy to grow and need little fertilizer. And most herbs will tolerate neglect, poor soil, and drought. Sounds like a gardener's dream, right? I like to keep my herb garden close to my kitchen door for easy access.

The key to growing herbs is to grow those that like similar growing conditions together in the same area. I grow cool-weather loving veggies such as parsley, dill, cilantro, and chives in my Southern California winter herb garden. These herbs can also be grown in the shade of taller plants during hot summers to protect them from the heat and keep them pumping out the flavor. My summer herb garden features an array of basils (Italian Large Leaf, Persian, Purple, Thai), and drought-tolerant perennials such as sage, rosemary, thyme, oregano, and tarragon. And then there's the mint that can take over your garden if you're not careful. I grow mint in a container within my raised bed to keep it contained. Don't forget the pollinators—plant herbs that are known for their bee-attracting flowers—especially purple blooms, such as lavender and borage.

An herb garden can be as small or as large as you like it, below is a layout for a raised bed that is 4 feet × 4 feet (1.2 × 1.2 m).

CaliKim's Top Picks Herb Garden

Warm-Weather Herbs

FOR TEMPERATURES OVER 70°F (21°C)

Basil: Italian Large Leaf, Genovese, Purple Opal, Thai

Borage (perennial in colder areas)

Chamomile (warm weather): German, Roman

Lavender (perennial in milder areas)

Mint (perennial in colder areas): Spearmint, Peppermint, Chocolate, Pineapple

Rosemary (warm weather, perennial in milder areas)

Sage (perennial)

Tarragon (perennial): French, Russian

Thyme (perennial)

Cool-Weather Herbs

FOR TEMPERATURES UNDER 75°F (24°C)

Alliums: Chives, Onion, Garlic

Cilantro: Slo-Bolt

Dill: Mammoth, Bouquet

Parsley: Curly, Flat Leaf

Lavender

Thyme

Basil

Chives

Cilantro

LAYOUT #6: Kid's Garden

Plant an easy-to-grow colorful, fun, kid-friendly garden to encourage your kids to love growing and eating their own veggies. This Kid's Garden is in one handy, raised bed so that they can plant and take care of it themselves!

The key here is to keep it fun, colorful, and manageable for your children so they will want to keep on growing *and* eating their veggies! The Mini Elevated Raised Bed design (see Chapter 2, page 48) sized 2 feet × 4 feet (60 × 120 cm) or a fabric pop-up raised bed such as the Smart Pot Purple Mini Big Bag Bed works great for a Kid's Garden.

Let the kids help with the building, setting up, and planting of their own garden. They'll love choosing a fun color to paint it and will enjoy decorating it with their favorite character or theme. Help them plant kid size (smaller varieties), colorful veggies that grow quickly to keep their interest. Plant cool-weather veggies (peas, radishes, lettuce) in the early spring. As they die out with the hot temperatures, pop in warm-weather veggies (cucumbers, beans, Tiny Tim Tomatoes) to take their place.

Some of my favorite kiddo-friendly veggies from my Kid's Seed Collection include Royal Burgundy Bush Beans, Little Finger Carrots, Spacemaster Cucumbers, Little Marvel Peas, Easter Egg Mix Radishes, and Bronze Mignonette Lettuce. Don't forget to plant Lilliput Zinnias and Black Oil Sunflowers in the corners and along the edges for a huge pop of color and to attract the pollinators!

CaliKim's Top Picks Kid's Garden

Warm-Weather Vegetables and Flowers

FOR TEMPERATURES OVER 70°F (21°C)

Beans (provide stakes for support): Royal Burgundy (bush), Slenderette (bush), Blue Lake Bush

Cucumbers (trellis): Spacemaster, Lemon

Sunflowers: Lemon Queen, Velvet Queen, Dwarf Sunspot, Black Oil

Tomatoes (short tomato cage): Tiny Tim (dwarf)

Zinnias: California Giant, Lilliput (dwarf), Profusion Red (dwarf), Profusion White (dwarf)

Cool-Weather Vegetables

FOR TEMPERATURES UNDER 75°F (24°C)

Alliums: Chives, Onion, Garlic

Carrots: Little Finger, Cosmic Purple, Red Cored Chantenay

Lettuce: Bronze Mignonette, Red Romaine, Red Salad Bowl

Peas (trellis): Royal Snow, Feisty, Little Marvel

Radishes: Easter Egg, French Breakfast, Triton Purple Stem

left Cucumber

LAYOUT #7: Pollinator's Paradise

Grow lots of flowers—harvest lots of veggies! Your outdoor space will sizzle, sparkle and pop with color (and *lots* of veggies) when you include a Pollinator's Paradise raised bed as part of your garden layout. Plant flowers of all colors, as different pollinators have their favorites (see Tips to Bring in the Pollinators on page 83).

Many flowers are easy to grow from seed and can be planted directly into garden beds or started indoors to give you early blooms. Early spring, after the last frost, is the time to plant cool-season flowers such as nasturtiums, calendula, alyssum, forget-me-nots, and poppies to name a few. In the warm summer months, switch to heat lovers such as zinnias (of all sizes and colors), wildflowers, sunflowers, cosmos, borage, daisies, and black-eyed Susan's. Get your cool-season seeds started inside first, then plant them outside after your last frost date. If you have space, plant another bed with warm-season seeds or start the heat lovers indoors a few weeks before last frost date. As cool-season flowers are dying out from the heat, you'll have warm-season plants pop in the garden bed and blooming—for color all summer long!

CaliKim's Top Picks Pollinator's Paradise

Warm-Weather Flowers

FOR TEMPERATURES OVER 70°F (21°C)

Black-Eyed Susans

Borage

Cosmos: Bright Lights

Sunflowers: Lemon Queen, Velvet Queen, Dwarf Sunspot, Black Oil

Wildflower Mix

Zinnias: California Giant, Candy Cane, Lilliput (dwarf), Profusion Red (dwarf), Profusion White (dwarf)

Daisies: Gerbera Daisies

Sunflowers

Cool-Weather Vegetables

FOR TEMPERATURES UNDER 75°F (24°C)

Alyssum: Carpet of Snow

Calendula: Pacific Beauty

Forget-Me-Nots

Nasturtium: Jewel Mix

Poppies: California, Red, Orange

Daisies, nasturtiums

Poppies

LAYOUT #8: Tomato and Pepper Lover's Delight

For tomato and pepper lovers, this one's for you. Get ready to plant a rainbow of colors! There are so many stunning varieties, shapes, sizes, and flavors of tomatoes and peppers—it will make your heart sing and your taste buds dance with homegrown flavor. Start tomatoes and peppers indoors from seed 8-10 weeks before your last frost date for the best pick of colors and varieties—and go to town with this one. (See my book, *Organic Gardening for Everyone* for tips on seed starting indoors.) Heirloom tomato varieties are particularly fun here, as often they have unique shapes and a huge range of gorgeous shades (solid, variegated, striped, speckled, and more).

Grow your Tomato and Pepper Lover's Delight garden in the largest bed you can. It should also be in the sunniest, warmest spot in your garden. This way you're sure to get baskets and baskets full of scrumptious produce to share with family, friends, and neighbors (and have plenty to can and freeze to your heart's delight too). Add some flowers such as zinnias (of various colors) to bring in the pollinators, and you're sure to have huge harvests.

CaliKim's Top Picks Tomato and Pepper Lover's Delight

Warm-Weather Vegetables

FOR TEMPERATURES OVER 70°F (21°C)

PEPPERS

Hot: Hungarian Hot Wax, Cayenne, Jalapeño, Chinese 5 Color, Thai Chili, Lemon Drop, Cherry Bomb, Poblano, Shishito

Sweet: California Wonder, Cubanelle, Jimmy Nardello, Yellow Sweet Banana, Purple Beauty, Orange Bell, Yellow Monster

TOMATOES

Full Size: Golden Jubilee, Ace 55, Homestead, Marglobe, Green Zebra, Brandywine (yellow, pink, black), Lucid Gem, Mr. Stripey, Aunt Ruby's German Green, Cherokee Purple, Amish Paste, Solar Flare

Cherry: Red Large Cherry, Midnight Snack, Yellow Pear, Sungold, Black Cherry, Sweet 100, Tiny Tim (dwarf), Atomic Grape, Tommy Toe

Midnight snack tomato

LAYOUT #9: Fall Garden (or Early Spring Garden)

This raised bed has cool-weather loving veggies that can be planted in the fall or spring. In the fall, they can be planted as summer temperatures drop. Or they can be planted in early spring before your last frost date, and as soon as the soil thaws out and can be worked. These crops are workhorses that can take a light frost (or a hard frost under cover). Cover them during the cold nights that happen in early spring to help them get growing sooner, or cover them in the fall to extend their harvests into the winter months. These plants can be grown during the winter in mild winter climates. The Fall Garden (or Early Spring Garden) raised bed contains cool-weather crops such as broccoli, beets, radish, broccoli, cauliflower, peas, cabbage, arugula, collards, kohlrabi, carrots, lettuce, nasturtiums, and calendula.

CaliKim's Top Picks Fall Garden (or Early Spring Garden)

Cool-Weather Vegetables and Flowers

FOR TEMPERATURES UNDER 75°F (24°C)

Note: Most will take light frosts

Alliums: Chives, Onion, Garlic

Arugula

Beets: Early Wonder, Ruby Queen, Chioggia

Broccoli: Waltham, Early Purple

Cabbage: Red Express, Golden Acre

Calendula: Pacific Beauty Mix, Pink Surprise

Carrots: Little Finger, Cosmic Purple, Red Cored Chantenay

Cauliflower: Early Snowball, Purple

Collards: Georgia, Vates

Dill: Mammoth, Bouquet

Kohlrabi: Purple, White Vienna

Lettuce: Bronze Mignonette, Red Romaine, Red Salad Bowl

Nasturtiums: Jewel Mix, Alaska Red Shades

Peas (trellis): Royal Snow, Little Marvel, Sugar Ann

Radishes: Easter Egg, French Breakfast, Triton Purple Stem

Spinach: Bloomsdale, Galilee

Cabbage

LAYOUT #10: Late Summer Garden

As your summer crops are coming to an end, plant a new round of veggies to harvest before the cold weather hits with a vengeance. In this garden bed, I like to plant easy-to-grow, quick-maturing veggies and flowers that will grow from seed to harvest in 6 to 8 weeks.

Either pop up a new fabric raised bed for your late summer garden or remove summer plants that have seen better days and replace them with these veggies. A strategy I use is to start seedlings indoors under grow lights to get them off to a quick start or I plant seeds in small pots of soil and put them out on my deck so I can give them frequent attention. In late summer, as I clear plants that have run their course out of my garden beds, I have a new round of seedlings to take their place.

CaliKim's Top Picks Late Summer Garden

Warm-Weather Vegetables

FOR TEMPERATURES OVER 70°F (21°C)

Basil: Italian Large Leaf, Genovese, Purple Opal, Thai

Beans: Royal Burgundy (bush), Blue Lake (bush), Slenderette, Taylor Dwarf

Chard: Red, Bright Lights, Swiss

Cucumbers: Spacemaster, Boston Pickling

Kale: Red Russian, Blue Curled Scotch, Purple Lacinato

Squash: White, Green Scalloped, Yellow Scalloped, Zucchini

Tomatoes: Tiny Tim (dwarf)

Zinnias: California Giant, Candy Cane, Lilliput (dwarf), Profusion Red (dwarf), Profusion White (dwarf)

left Tiny Tim tomato

How to Arrange Plants in Your Garden Beds

A little strategic positioning of your plants can make a huge difference in how much you harvest and how easy it is to harvest and maintain your veggies, herbs, and flowers. As a general rule of thumb, plant veggies arranged from the tallest to the shortest, so taller veggies don't shade out shorter ones.

Back of the Bed

Tall and/or climbing veggies that are grown on a trellis, such as squash, tomatoes, cucumbers, pole beans, and peas should be placed at the back of the garden bed so they don't shade other shorter plants. This will be on the north side for northern hemisphere gardeners or on the south side for southern hemisphere gardeners.

You can also plant crops at the back of the bed that don't tolerate hot summer sun (such as lettuce, greens, and cool-weather herbs and flowers). Create shade for these cool-weather plants by planting taller plants in front of them.

Middle of the Bed

Medium-sized plants such as bush beans, peppers, eggplant, kale, chard, and basil are perfect for the sunny middle section of your bed—where they won't get shaded out by taller veggies.

Sprawling Plants Along the Edges of the Bed

Sprawlers such as squash or spillers such as strawberries or nasturtiums can be planted along the edges of garden beds to avoid shading out smaller plants. This also gives them room to spill over the edge of the bed and creates a lot of visual interest in the garden.

Frequently Harvested Crops

For easier access, plant smaller crops, such as lettuce, greens, and herbs that are harvested on a daily basis, near the edge of the garden beds. They'll benefit from a little afternoon shade, so it's no big deal if the taller crops in back create a bit of a canopy over them as they grow. These frequently harvested crops will benefit from some extra hydration, so planting them closer to the edges will give you a visual reminder and easier access when watering.

Scalloped squash makes a great "spiller" along the edges of a raised bed.

Interplanting

Insert plants that will tolerate shade in between your taller plants. Lettuce, greens, cilantro, parsley, oregano, sage, and mint are good candidates for these interplanted spots.

Corners

Don't forget to plant something for the pollinators. Giant sunflowers and tall wildflower mixes planted in the corners will frame the garden bed and provide easy to find food sources for the bees, butterflies, and hummingbirds.

How Close Is Too Close?

In my early gardening days, I have to admit I went a little crazy with planting tomatoes. I wanted to grow them all—every color and variety that I could possibly pack into my garden. I dreamed of making vats of homemade spaghetti sauce and salsa that I was going to freeze and preserve—enough to last the winter long. Forgetting that baby tomato seedlings would grow so big, and thinking that my raised beds would look really bare if the tiny plants were spread apart, I packed the 'maters in. Planting the seedlings about 6 inches (15 cm) apart, I must have planted 30–40 tomato plants into five raised beds that were only 2 feet × 6 feet (60 × 180 cm). I didn't know that a 6-inch (15 cm) tall tomato seedling will ultimately grow to a mature height of 8-10 feet (2.4-3 m). I had no idea how much space a full-grown tomato plant would take up at maturity, and I didn't know how difficult it would be to maintain over packed tomato beds.

That year, I didn't grow a garden, I grew a tomato jungle. There was no room for pathways, let alone space for the plants to breathe, or for me to harvest. I literally had to cut a swath through the tomato jungle to harvest the plants. The vegetation was so thick, a rodent chose to make my tomato jungle the location for her cozy nest. One day while harvesting, I lifted up a tomato plant that had fallen over and was treated to a squirming nest of baby rats! Ugh!

Although I did harvest tons and tons of tomatoes that year, gave away tomatoes to everyone I knew, and filled up my freezer full, my garden was an unmanageable hot tomato mess. It was difficult to maintain, and certainly not easy on the eyes. Without proper air flow, the tomatoes got attacked by diseases, which knocked them out early in the season.

Many first-time gardeners make the same common mistake that I made when I first started out—packing it in! When planting your raised bed, it's important to know how far apart to space your vegetables. Plant too close and your plants will compete for nutrients, air, and water—which could affect how many veggies you'll harvest. Gardens planted too densely will be more susceptible to disease and harder to maintain. But, spread out too much and you'll not have the type of yields you could have had from your precious raised bed space.

To confuse the issue even more, all plants are not created equal. Veggies vary in size and will need different spacing. And there is a variety of planting arrangements to choose from too. You could follow a traditional approach and plant in rows or plant intensively, each has its own set of considerations.

PLANT SPACING GUIDE FOR GROWING IN ROWS

Plant	Plant Spacing in the Row
Alyssum	4-6 inches (10-15 cm) apart
Arugula	4-6 inches (10-15 cm) apart
Basil	4-6 inches (10-15 cm) apart
Beans (Bush)	4-6 inches (10-15 cm) apart
Beans (Pole on a Trellis)	4-6 inches (10-15 cm) apart
Beans (Runner)	4-6 inches (10-15 cm) apart
Beets	4-6 inches (10-15 cm) apart
Black-Eyed Susans	4-6 inches (10-15 cm) apart
Borage	6-10 inches (15-25 cm) apart
Broccoli	12-18 inches (30-46 cm) apart
Calendula	4-6 inches (10-15 cm) apart
Carrots	2-3 inches (5-7.6 cm apart)
Cauliflower	12-18 inches (30-46 cm) apart
Chamomile	6-10 inches (15-25 cm) apart
Chard	6-10 inches (15-25 cm) apart
Chives	2-3 inches (5-7.6 cm apart)
Cilantro	4-6 inches (10-15 cm) apart
Collards	12-18 inches (30-46 cm) apart

Plant	Plant Spacing in the Row
Cosmos	6-10 inches (15-25 cm) apart
Cucumber	6-10 inches (15-25 cm) apart
Dill	4-6 inches (10-15 cm) apart
Eggplant	12-18 inches (30-46 cm) apart
Forget-Me-Nots	6-10 inches (15-25 cm) apart
Kale	6-10 inches (15-25 cm) apart
Kohlrabi	4-6 inches (10-15 cm) apart
Lavender	12-18 inches (30-46 cm) apart
Lettuce	2-3 inches (5-7.6 cm apart)
Melons (Grown Vertically)	18-24 inches (46-60 cm) apart
Mint	4-6 inches (10-15 cm) apart
Mustard Greens	4-6 inches (10-15 cm) apart
Nasturtium	4-6 inches (10-15 cm) apart
Onions	4-6 inches (10-15 cm) apart
Onions (Bunching)	2-3 inches (5-7.6 cm apart)
Oregano	12-18 inches (30-46 cm) apart
Parsley	4-6 inches (10-15 cm) apart
Peas	2-3 inches (5-7.6 cm apart)

Plant	Plant Spacing in the Row
Peppers	12-18 inches (30-46 cm) apart
Poppies	4-6 inches (10-15 cm) apart
Radishes	2-3 inches (5-7.6 cm apart)
Rosemary	12-18 inches (30-46 cm) apart
Sage	12-18 inches (30-46 cm) apart
Spinach	4-6 inches (10-15 cm) apart
Squash (Bush)	12-18 inches (30-46 cm) apart
Squash (Vertical Vining)	12-18 inches (30-46 cm) apart
Strawberries	6-10 inches (15-25 cm) apart
Sunflowers	12-18 inches (30-46 cm) apart
Tarragon	12-18 inches (30-46 cm) apart
Thyme	12-18 inches (30-46 cm) apart
Tomatillo	18-24 inches (46-60 cm) apart
Tomatoes	18-24 inches (46-60 cm) apart
Tomatoes (Dwarf)	12-18 inches (30-46 cm) apart
Violas	4-6 inches (10-15 cm) apart
Wildflower Seed Mix	2-3 inches (5-7.6 cm apart)
Zinnias	4-6 inches (10-15 cm) apart

Row Planting

Traditional row planting is when you plant your veggies in several clearly defined straight, evenly spaced, parallel rows. Row planting allows easy access to your veggies, especially in a traditional in-ground garden. Gardens that are planted in rows look tidy and uniform, have an aesthetic appeal, and allow for more sunlight to get to the plants. Row planting can also be used in raised beds. However, since raised beds are designed with easy access in mind (you can easily reach into the middle and walk around all the edges), this method isn't always the best utilization of space. Row planting can leave more of the soil bare which means more area to mulch, more unplanted soil to dry out, more for you to water, and possibly more weeds to creep in and compete with your veggies.

Staggered Rows

An alternative to planting in straight rows is planting in staggered rows. Staggered rows can be in a zig zag or triangle formation which will allow you to grow more plants in the available space. Staggered rows still have an aesthetic appeal and make it easier to reach plants, apply mulch, fertilize plants, and harvest.

Here is a handy plant spacing guide for growing in rows (or staggered rows). Use this guide to plan the spacing in your raised garden beds or make notes to adjust your spacing for next season.

Intensive Planting

Intensive planting is a method of gardening that utilizes your garden space to the fullest, allowing you to harvest more veggies in the same amount of space as a traditional row planting. This approach is ideal for gardeners with small spaces, as you get the most bang for your gardening buck. Intensive planning makes it possible to grow a significant portion of your produce needs in your small space garden grocery store.

Besides growing more food, intensive planting has the added benefit of conserving water and cutting back on weeds. When you strategically plant more in each garden bed by placing taller plants next to shorter, shade-tolerant plants, you create a barrier from the hot sun, reducing water evaporation—meaning you don't have to water as often. In turn when using intensive planting methods, plants can shade and support each other, which helps them be healthier plants in the long run and will give you more veggies to harvest.

With little bare soil, because it is covered with a canopy of veggies leaves, weeds will be hard-pressed to thrive and rarely invade your garden. Weeds that do show their ugly heads can easily be pulled out, as your soil is nice and soft (and not baked and hard-packed from the sun hitting it).

While there are many intensive planting methods out there, one of the most popular and easiest for a beginning gardener, is the square foot method made popular by Mel Bartholomew's book, *Square Foot Gardening*. The square foot method can be adapted to any large or small garden space, including raised beds, containers, or in-ground gardens. Once an intensively planted, square foot bed is set up, it's easily maintained.

The benefit of the square foot gardening method is that it's one of the simplest, low maintenance ways of intensive planting—making it a great method for new or busy gardeners. On the con side, larger plants such as tomatoes, melons, and squash aren't well accommodated in the square foot grid, although adaptations can easily be made for your larger plant needs. Another drawback is that while the recommended Mel's Mix soil is nutrient-dense and is excellent to grow veggies in, it is more expensive than other soil mixes. (See Mel's Mix soil recipes in Chapter 3.)

Planting a Square Foot Garden

Mel Bartholomew's book, *Square Foot Gardening*, has some easy to follow steps for planting your own square foot garden.

STEP 1: Filling the garden bed

- Fill your garden bed with a rich soil mix called "Mel's Mix" which consists of ⅓ part coco coir or peat moss, ⅓ part vermiculite, and ⅓ part compost (using a combination of at least 5 different types of compost for a nutritionally balanced mix), (See Mel's Mix soil recipe in Chapter 3.)
- No additional fertilizer is needed as all the nutrients are coming from the compost. Also minimal digging is needed due to the nice, loose quality of Mel's Mix.

STEP 2: Making the square foot grids

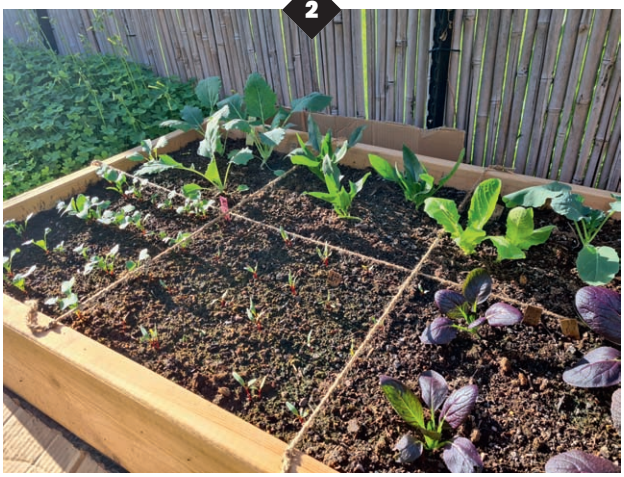
- Divide your raised bed into a grid pattern that is 1 foot × 1 foot (30 × 30 cm). This square foot grid can easily be made using string, rope, or thin slats of wood that are attached to the top of your raised bed.
- The grid helps you see how to space your veggies and keeps the garden bed looking neat and tidy.

STEP 3: Planting the grid

Plant in each square grid using the recommended spacing for each veggie. For example, plant one eggplant in a square, two cucumbers in another square, eight lettuce plants per square, and 16 carrots per square. (See the Intensive Planting Chart below.)

- Each square can be planted and maintained individually. Throw a handful of compost into a square when you plant it and you're good to go.
- Since the goal of this method is to harvest more, plant several crops that lend themselves well to growing vertically such as squash, cucumbers, tomatoes, and melons on trellises and supports. (See all the DIY trellis ideas in Chapter 4.)
- Utilize succession planting to have harvests ready at different times and to avoid being inundated with veggies (covered later in this chapter). For example, as one square foot of lettuce is harvested, the kale in the next square over is just starting to grow and will be ready to harvest when the lettuce is done.
- When one square is done producing, simply add a handful of compost to replenish nutrients and plant a new crop.

Page 161 has an intensive planting guide that gives the recommended number of plants per square foot grid. As always, don't be afraid to experiment to see what works best for you and adjust to fit your space.



INTENSIVE PLANTING GUIDE

Plant	Number of Plants per Square Foot Grid
Alyssum	8 plants per square foot grid
Arugula	8 plants per square foot grid
Basil	8 plants per square foot grid
Beans (Bush)	8 plants per square foot grid
Beans (Runner, Pole or Trellis)	4 plants per square foot grid
Beets	8 plants per square foot grid
Borage	2 plants per square foot grid
Broccoli	1 plant per square foot grid
Cabbage	1 plant per square foot grid
Calendula	8 plants per square foot grid
Carrots	16 plants per square foot grid
Cauliflower	1 plant per square foot grid
Chamomile	4 plants per square foot grid
Chard	4 plants per square foot grid
Chives	8 plants per square foot grid
Cilantro	8 plants per square foot grid
Collards	1 plant per square foot grid
Cosmos	2 plants per square foot grid
Cucumber	2 plants per square foot grid
Dill	8 plants per square foot grid
Eggplant	1 plant per square foot grid
Forget-Me-Nots	4 plants per square foot grid
Kale	4 plants per square foot grid
Kohlrabi	4 plants per square foot grid
Lavender	2 plants per square foot grid
Lettuce	8 plants per square foot grid
Melons (Small, Trellis)	1 plant per 2 square foot grids
Mint	4 plants per square foot grid
Mustard Greens	4 plants per square foot grid
Nasturtiums	8 plants per square foot grid
Onions	4 plants per square foot grid
Onions (Bunching)	16 plants per square foot grid
Oregano	2 plants per square foot grid
Parsley	8 plants per square foot grid
Peas	8 plants per square foot grid
Peppers	1 plant per square foot grid
Poppies	8 plants per square foot grid
Radishes	16 plants per square foot grid
Rosemary	1 plant per square foot grid
Sage	1 plant per square foot grid
Spinach	8 plants per square foot grid
Squash (Small, Bush, or Trellis)	1 plant per 2 square foot grids
Strawberries	4 plants per square foot grid
Sunflowers	1 plant per square foot grid
Tarragon	2 plants per square foot grid
Thyme	4 plants per square foot grid
Tomatillo	1 plant per 2 square foot grids
Tomatoes (Dwarf)	2 plants per square foot grid
Tomatoes (Large, Bush)	1 plant per 4 square foot grids
Violas	8 plants per square foot grid
Wildflower Seed Mix	8 plants per square foot grid
Zinnias	8 plants per square foot grid
Zucchini (Large, Bush)	1 plant per 4 square foot grids

Succession Planting—Getting More Food from the Same Space

Succession planting allows you to grow more vegetables more months of the year.

Our goal as gardeners is to continually have something to harvest so there's always fresh food from the garden to eat. I like to do this with succession planting. If this is a new term for you, succession planting simply means that you're spacing out your planting dates so you can harvest at several times. Succession planting is done so you're not overloaded with one massive harvest that you can't possibly eat (or preserve) all at once. A huge advantage of succession planting is that it allows you to grow more vegetables more months of the year!

GUIDE TO VEGETABLE SUCCESSION PLANTING

Vegetable	When to Direct Sow Outside	When to Start Seeds Indoors	Cool-Weather Veggies—Tolerating light frost to 75°F (24°C)	Warm-Weather Veggies—Tolerating 60-90°F (16°C-32°C)	Time from Seed to Harvest	Transplant Outside	Succession Planting Interval
Basil	After last frost date in spring.	6-8 weeks before last frost date in spring.		×	4-8 weeks	After last frost date in spring.	30 days
Beans (Bush)	After last frost date in spring.	3 weeks before last frost date in spring.		×	4-6 weeks	After last frost date in spring.	2 weeks
Beans (Pole)	After last frost date in spring.	6-8 weeks before last frost date in spring.		×	6-8 weeks	After last frost date in spring.	30 days
Beets	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	6-8 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	×		6-8 weeks	2 weeks before last frost date in spring.	2 weeks
Broccoli	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	6-8 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	×		8-10 weeks	After last frost date in spring.	30 days
Cabbage	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	6-8 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	×		8-15 weeks	After last frost date in spring.	2 weeks
Carrots	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	Grows best when seeds are sown directly in garden bed.	×		8-15 weeks	After last frost date in spring.	2 weeks
Cauliflower	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	6-8 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	×		8-15 weeks	After last frost date in spring.	30 days
Chard	4 weeks before last frost date in spring.	4 weeks before last frost date in spring.	×	×	4-6 weeks	After last frost date in spring.	30 days
Chives	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	6-8 weeks before last frost date in spring.	×		10-12 weeks	After last frost date in spring.	30 days

Vegetable	When to Direct Sow Outside	When to Start Seeds Indoors	Cool-Weather Veggies—Tolerating light frost to 75°F (24°C)	Warm-Weather Veggies—Tolerating 60-90°F (16°C-32°C)	Time from Seed to Harvest	Transplant Outside	Succession Planting Interval
Cilantro	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	6-8 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	×		8-10 weeks	After last frost date in spring.	2-3 weeks
Collards	4 weeks before last frost date in spring.	6-8 weeks before last frost date in spring.	×	×	6-8 weeks	After last frost date in spring.	30 days
Cucumbers	After last frost date in spring.	4 weeks before last frost date in spring.		×	6-8 weeks	After last frost date in spring.	30 days
Dill	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	2-3 weeks before last frost date in spring, 2-3 weeks before temps cool below 75°F (24°C) in late summer or fall.	×		4-6 weeks	After last frost date in spring.	2-3 weeks
Eggplant	Grows best when seeds are started indoors.	8-12 weeks before last frost date in spring.		×	6-10 weeks	2-4 weeks after last frost date in spring when night temperatures are at least 55°F (13°C).	30 days
Kale	4 weeks before last frost date in spring.	4 weeks before last frost date in spring.	×	×	6-8 weeks	After last frost date in spring.	2 weeks
Lettuce	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	2-3 weeks before last frost date in spring, 2-3 weeks before temps cool below 75°F (24°C) in late summer or fall.	×		4-6 weeks	After last frost date in spring.	2 weeks
Melons	After last frost date in spring.	4 weeks before last frost date in spring.		×	12-15 weeks	After last frost date in spring.	30 days
Parsley	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	2-3 weeks before last frost date in spring, 2-3 weeks before temps cool below 75°F (24°C) in late summer or fall.	×		4-6 weeks	After last frost date in spring.	2-3 weeks

Vegetable	When to Direct Sow Outside	When to Start Seeds Indoors	Cool-Weather Veggies—Tolerating light frost to 75°F (24°C)	Warm-Weather Veggies—Tolerating 60–90°F (16°C–32°C)	Time from Seed to Harvest	Transplant Outside	Succession Planting Interval
Peas	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	2-3 weeks before last frost date in spring, 2-3 weeks before temps cool below 75°F (24°C) in late summer or fall.	×		6-8 weeks	2 weeks before last frost date in spring.	2 weeks
Peppers	Grows best when seeds are started indoors.	8-12 weeks before last frost date in spring.		×	12-15 weeks	2-4 weeks after last frost date in spring when night temperatures are at least 55°F (13°C).	30 days
Radishes	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	2-3 weeks before last frost date in spring, 2-3 weeks before temps cool below 75°F (24°C) in late summer or fall.	×		3-4 weeks	After last frost date in spring.	1 week
Spinach	2 weeks before last frost date in spring, 6-8 weeks before 1st frost date in fall.	2-3 weeks before last frost date in spring, 2-3 weeks before temps cool below 75°F (24°C) in late summer or fall.	×		8-10 weeks	After last frost date in spring.	2 weeks
Squash	After last frost date in spring.	4 weeks before last frost date in spring.		×	4-6 weeks	After last frost date in spring.	30 days
Tomatoes	Grows best when seeds are started indoors.	6-8 weeks before last frost date in spring.		×	12-15 weeks	2-4 weeks after last frost date in spring when night temperatures are at least 55°F (13°C).	30 days

Succession Planting—Strategies for Success

Using the following three strategies for succession planting success and a little bit of planning, you can keep your garden continually growing and keep the harvests coming so that you always have garden-fresh veggies on your table.

STRATEGY #1: Same Veggie—Different Maturity Dates

With this strategy for succession planting, you plant two to three different varieties of the same vegetable at the same time. The key is to plant varieties that have different maturity dates—which is the amount of time it takes for a vegetable to go from planting seeds to harvest.

One crop that works well with this strategy is radishes. Radishes are a cool-weather vegetable. They grow best in temperatures under 75°F (24°C) and can be planted early in the spring, or in the fall once the summer temperatures cool. I like to plant three different types of radishes at the same time with different maturity dates. Here's what I plant to have a succession of radish crops.

- **Roxanne Radish** which grows from seed to harvest in about 20 days.
- **Rivoli Radish** which takes about 30 days to grow from seed to harvest.
- **Sweet Baby Radish** which has a seed to harvest maturity date of about 40 days.

This spreads my harvests out so I don't have baskets and baskets full of radishes that I can't possibly eat all at once.

STRATEGY #2: Plant Mini Crops at Intervals

Plant small, mini crops every two to three weeks so that you have a continual harvest. This strategy works well with vegetables that grow quickly. I adore garden-fresh salads, and one of my favorite vegetables to use for this strategy is lettuce—so I never run out of greens for my salads. Rather than planting a whole raised bed full of lettuce, I like to plant half a garden bed first, and the other half in two weeks. This method requires some planning because you have to a) leave empty spots in your garden or b) time the planting of one mini crop when another crop has run its course and can be pulled out to create an empty space for a new crop. Other veggies that work well with this technique are kale, chard, cucumbers, beans, and peas.

STRATEGY #3: Grow Your Own Transplants

While you're waiting for garden space to free up, use your time wisely by growing your own transplants indoors. Not only does this save money but it also saves time because you'll have transplants ready to put out into the garden (instead of planting seeds) when one crop has run its course, giving you a quicker harvest.

Plant different varieties of the same veggie—with varying maturity dates to spread the harvest out over the growing season.

Grow your own seedlings indoors while you're waiting for garden space to free up outdoors.

STRATEGY #4: Work with the Weather and use Cool-Weather vs. Warm-Weather Veggies

Work with the weather by planting the appropriate vegetable for the appropriate season—cool-weather veggies in spring and fall, and warm-weather veggies during the heat of the summer. You can get a head start on the season by starting vegetable seeds for the alternate (upcoming) season indoors to plant outside when the weather is right.

Here's how this works. Early in the spring, 2-3 weeks before your last frost date, as soon as the soil thaws out and is loose enough to dig, plant quick growing veggies that will tolerate the frost and cooler temperatures (such as peas, lettuce, and radishes). These veggies are easy to direct sow right in your garden beds and will grow from seed to harvest in 3-8 weeks.

At the same time, that you are planting cool-weather veggies in your garden beds (or even 4-6 weeks earlier), start seeds for warm-weather crops (such as tomatoes, cucumbers, pepper, and eggplants) indoors under grow lights. By the time that your early, cool-season crops are finished and ready to be pulled out, the weather will be warming up, and your warm-weather transplants can be placed outside in the same space—enjoying the warmer temperatures.

The reverse is true at the end of the summer growing season. Start cool-weather veggies (broccoli, cauliflower, cabbage, and Brussels sprouts) indoors in late July or early August for transplanting outdoors 6-8 weeks later once the weather cools off and your summer veggies are winding down.

Conclusion

Congratulations! After reading and implementing the steps outlined here in *The First-Time Gardener: Raised Bed Gardening*, you now have all the know-how, skills, inspiration, motivation, and confidence you need to grow your own amazingly delicious vegetables bursting with freshness and flavor in your raised beds. You're eons further down the road on your garden journey than when you first started thinking about gardening in raised beds. And you've discovered how rewarding, easy, and effective it is to grow your own fruits and veggies in raised beds. It doesn't matter if you only built a few DIY raised beds, popped up a couple of pre-made beds, put one raised bed on your balcony, or set up a huge yard full of raised beds, I want to give you a huge cheer for taking the first step, then another, and then another toward better health and sustainability by growing your own food.

Don't forget, as you continue on your journey, the important thing is not that your garden is perfect, but that it's your *own* customized space, set up exactly how you like to garden and is filled with what you enjoy eating!

Remember, the ultimate destination as we travel down this road together is *not* to have a perfect garden. It's to grow our own organic, fresh, tasty veggies, in a quick and simple (to maintain) way that fits into our busy lives. Most important is that you *enjoy the journey*. There's simply a one-of-a-kind satisfaction that comes from knowing exactly where your food comes from, how it has been grown, what's in it—and the taste—it's out of this world, don't you agree? Every time you put a plate of your own garden-fresh veggies on the table, every bit of effort you put into growing it is worth it! I'm so very proud of you for embarking on the journey to improve your physical and mental health, and taking the steps to turn your dreams into reality by growing your own garden grocery store in raised beds. You're doing a fantastic job—you got this—don't stop growing!

Happy Gardening,

Calikim

Resources

CHAPTER 1

RAISED BED SIZES

The Right Size for Raised Beds by Jennifer Loucks. homeguides.sfgate.com/right-size-raised-beds-92835.html

GARDEN PATHWAYS

Vegetable Garden Paths—Design Considerations by Peter Kearney. myfoodgarden.com.au/vegetablegardenpaths

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Raised Beds: Soil Depth Requirements by Eartheasy.com. learn.eartheasy.com/guides/raised-beds-soil-depth-requirements/#soildepth

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How to Build a Raised Garden Bed by the editors of *The Old Farmer's Almanac*. almanac.com/content/how-build-raised-garden-bed

Hardscaping 101: Raised Beds by Janet Hall on Gardenista. gardenista.com/posts/hardscaping-101-raised-garden-bed-how-to

UNDERGROUND LOCATES

Click Before You Dig Information. clickbeforeyoudig.com

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RAISED BED MATERIALS

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The Best Wood for Raised Bed Gardens by Melissa. createandfind.com/the-best-wood-for-raised-bed-gardens

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Pros and Cons of Cinder Block Raised Beds by Greg Volente. greenhousetoday.com/pros-and-cons-of-cinder-block-raised-beds

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Are Galvanized Steel Garden Beds Safe? by Epic Gardening. epicgardening.com/galvanized-steel-garden-beds-safe

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8 Materials for Raised Garden Beds by Jenny Peterson. houzz.com/magazine/8-materials-for-raised-garden-beds-stsetivw-vs~16676705

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Development and Construction of an Air-Pruning Propagation Bench, and its Proper Use by Julia Walker. depts.washington.edu/propplnt/Chapters/air-pruning.htm

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RAISED BED DESIGNS

Design #1 Keep It Simple Raised Bed

28 Best DIY Raised Bed Garden Ideas & Designs by A Piece of Rainbow. apieceofrainbow.com/20-diy-raised-bed-gardens

Simple DIY Raised Garden Beds by A Modern Homestead. amodernhomestead.com/simple-diy-raised-garden-beds

Design #2 Concrete Block Raised Bed

How to Build a Raised Garden Bed with Concrete Blocks by Amy Andrychowicz. getbusygardening.com/concrete-block-raised-bed

12 Amazing Cinder Block Raised Garden Beds by Off Grid World. offgridworld.com/12-amazing-cinder-block-raised-garden-beds

Design #3 Raised Beds for a Slope

How to Build a Raised Garden Bed on Sloping, Uneven Ground by Greg Seaman. learn.eartheasy.com/articles/how-to-build-a-raised-garden-bed-on-sloping-uneven-ground

How to Build an Organic Raised Bed on a Sloped Yard by Deeply Southern Home Interiors & DIY. deeplysouthernhome.com/how-to-build-an-organic-raised-bed-on-a-sloped-yard

Design #4 Mini Elevated Raised Bed

Our Easy DIY Guide to Building a Raised Garden Bed by Sunset. sunset.com/garden/backyard-projects/ultimate-raised-bed-how-to#raised-bed-main

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Perlite vs. Vermiculite, Fully Explained by Matt Gibson and Erin Marissa Russell. gardeningchannel.com/perlite-versus-vermiculite

GOOD DIRT SOIL CONDITIONER

getgooddirt.com

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squarefootgardening.org/2020/05/the-magic-of-mels-mix

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Hüglekultur Gardening by Sheri Trout. mgsoc.info/2019/01/hugelkultur-what

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VERMISTERRA EARTHWORM CASTINGS

vermisterra.com

CHAPTER 5

GROWING TOMATOES

6 Tips for Growing Tomatoes in Raised Bed Gardens by Tomato Dirt. tomatodirt.com/raised-garden-bed.html

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Plant Spacing—30 Vegetables & Their Spacing Requirements by Cheryl Magyar. ruralsprout.com/plant-spacing

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SQUARE FOOT GARDENING

Our Method. squarefootgardening.org/2017/07/our-method

Planting Chart Cheat Sheets. squarefootgardening.org/2019/03/planting-chart-cheat-sheets

CALIKIM SEED COLLECTIONS

calikimgardenandhome.com

BOOKS

Organic Gardening for Everyone: Homegrown Vegetables Made Easy by CaliKim. calikimgardenandhome.com/books

About the Author

CaliKim is a backyard organic gardener dedicated to helping people grow their own healthy, delicious vegetables—in a quick, simple, and inexpensive way that fits into our hectic lifestyles.

CaliKim lives in Southern California with her husband, Jerry; their two children, Julianne and Drew, and their border collie, Mac. Kim and Jerry (aka the "CameraGuy") work as a team to produce gardening content that helps gardeners all over the world grow their own organic veggies.

CaliKim provides gardening support and shares garden how-to information and tips through her YouTube channel, CaliKim Garden & Home; blog; online seed and garden shop; social media communities; this book; and her first book, *Organic Gardening for Everyone: Homegrown Vegetables Made Easy*.

The CaliKim Garden & Home YouTube channel (youtube.com/user/CaliKim29) has an extensive library of garden tutorials that have been viewed by millions of gardeners around the world. Her garden tutorials not only inspire and motivate gardeners to grow their own food but show gardeners *what* to do and *how* to do it!

Where to Find CaliKim

Seed & Garden Shop: calikimgardenandhome.com
YouTube: youtube.com/user/CaliKim29
Instagram: instagram.com/calikim29
Facebook: facebook.com/CaliKimGardenandHomeDIY
Email: calikim@calikimgardenandhome.com

Index

Aeration, soil, 64, 67
A-Frame Trellis, 96–100
Air pruning, 33
Alliums
  in Fall Garden, 153
  in Herb Garden, 145
  in Kid's Garden, 147
  in Salad Station garden, 143
All Soil method of filling raised beds, 72
Alyssum. *See also* Sweet alyssum
  plant spacing for, 158
  in Pollinator's Paradise garden, 149
  in square foot garden, 161
Animals
  covers and, 128
  fencing and, 60–61
Arch, Cattle Panel, 86–91
Arugula, 82
  in Fall Garden, 153
  in Pizza Garden, 141
  plant spacing for, 158
  in Salad Station garden, 142, 143
  in square foot garden, 161

Bagged soil, 65
Bartholomew, Mel, 159, 160
Basic Bagged Mix, 71
Basic Kitchen Garden Grocery Store garden, 136–137
Basil
  in Basic Kitchen Garden Grocery Store Bed, 137
  as *filler* plant, 134
  in Herb Garden, 145
  in Late Summer Garden, 155
  in Pizza Garden, 140, 141
  plant spacing for, 158
  in Salad Station garden, 142
  in square foot garden, 161
  succession planting, 163
Beans, 13
  in Basic Kitchen Garden Grocery Store Bed, 137
  depth/height of raised bed for, 19
  as *filler* in raised beds, 134
  in Kid's Garden, 147
  in Late Summer Garden, 155
  plant spacing for, 158
  in square foot garden, 161
  succession planting, 163
  as warm-weather crop, 80
Bees, 83, 139
Beets
  as cool-weather crop, 81
  in Fall Garden, 153
  in partial sun garden, 82
  plant spacing for, 158
  in square foot garden, 161
  succession planting, 163
Birds, 59, 60, 128
Black-eyed Susans, 83, 149, 158
"Black gold," 68
Bok choy, 82
Borage
  in Herb Garden, 145
  plant spacing for, 158
  in Pollinator's Paradise garden, 149
  in square foot garden, 161
Bricks
  A-Frame Trellis, 96–100
  pathways made from, 22
Broccoli
  as cool-weather crop, 81
  in Fall Garden, 153
  in Pizza Garden, 141
  plant spacing for, 158
  in square foot garden, 161
  succession planting, 163
Building raised beds
  The Build-It-In-Place Raised Bed for a Slope, 42–47
  Circle Concrete Block Raised Bed design, 38–41
  from composite wood, 30
  from concrete blocks, 29
  cross bracing, 53
  fencing and, 55, 58–60
  from galvanized metal, 30
  Keep It Simple Raised Wood Bed design, 34–37
  lining beds, 55, 56–57
  materials for, 27
  The Mini Elevated Raised Bed, 48–52
  mini elevated raised bed design, 48–52
  pre-made beds, 32–33
  from pre-made beds *versus* making your own, 32
  from rocks and stone, 31
  simple wood raised bed design, 34–37
  on a slope, 54–55
  from wood, 27–28
The Build-It-In-Place Raised Bed for a Slope, 42–47
Bulk soil, 65
Bunching onions, 137, 138, 141, 143, 158, 161
Burrowing critters, fencing and, 58–59
Bush beans, 147, 155, 156, 158, 161, 163
Bush squash, 134, 136, 137, 140, 158
Butterflies, 83, 157

Cabbage
  depth/height of raised bed for, 19
  in Fall Garden, 153
  in square foot garden, 161
  succession planting, 163
Calendula
  in Fall Garden, 153
  plant spacing for, 158
  in Pollinator's Paradise garden, 149
  in square foot garden, 161
CaliKim Seed Collection, 137
Cardboard, lining raised beds with, 37, 41, 56
Carrots
  as cool-weather crop, 81
  depth/height of raised bed for, 19
  in Fall Garden, 153
  in Kid's Garden, 147
  plant spacing for, 158
  in square foot garden, 161
  succession planting, 163
Cattle Panel Arch, 86–91
Cauliflower
  as cool-weather crop, 81
  in Fall Garden, 153
  plant spacing for, 158
  in square foot garden, 161
  succession planting, 163
Cedar wood, 28, 42
Chamomile
  in Herb Garden, 145
  plant spacing for, 158
  in square foot garden, 161
Chard
  as cool-weather crop, 81
  depth/height of raised bed for, 19
  in Late Summer Garden, 155
  light requirements, 15
  in partial sun garden, 82
  plant spacing for, 158
  in Salad Station garden, 142, 143
  in square foot garden, 161
  succession planting, 163
  as warm-weather crop, 80
Cherry tomatoes, 142, 143, 151
Chicken wire, for Fence Slat Chicken Wire Trellis, 92–95
Chives
  in Basic Kitchen Garden Grocery Store Bed, 137, 138
  plant spacing for, 158
  in Salad Station garden, 142

in Salsa Garden, 139
in square foot garden, 161
succession planting, 163
Cilantro
in Basic Kitchen Garden Grocery Store Bed, 137
in Herb Garden, 145
plant spacing for, 158
in Salsa Garden, 139
in square foot garden, 161
succession planting, 164
Cinder blocks, modern-day concrete blocks *versus,* 29
Circle Concrete Block Raised Bed, 38–41, 140
The Circle Concrete Block Raised Bed, 38–41
Coco coir
in DIY soil mix, 66, 67, 69, 71, 72
for square foot garden, 160
Collards
as cool-weather crop, 81
in Fall Garden, 153
in partial sun garden, 82
plant spacing for, 158
in Salad Station garden, 142
in square foot garden, 161
succession planting, 164
as warm-weather crop, 80
Combo Soil Mix (DIY soil mix), 70
Commercial soil, DIY mixes *versus,* 65
Compacted soil, lining raised beds placed on, 56
Composite wood, raised beds made from, 30
Compost
in DIY soil mix, 66, 68, 72
DIY soil mixes using, 70, 71
fertilizing with, 117
long-term soil maintenance using, 130
mulching with, 108
for square foot garden, 160
Concrete blocks
Circle Concrete Block Raised Bed, 38–41
pros and cons of building raised beds from, 29
Concrete remesh panels, 60
Concrete surfaces, 42, 56
Contaminated soil, 76
Cool-weather crops
for Basic Kitchen Garden Grocery Store Bed, 137
for Fall Garden, 152–153
for Herb Garden, 145
for Kid's Garden, 146, 147
in Pollinator's Paradise garden, 148, 149
for Salad Station garden, 142, 143
for Salsa Garden, 139
secrets for success with, 81
succession planting and, 167
Corner braces, 36, 37, 43
Corner stakes, for The Build-It-In-Place Raised Bed for a Slope, 45, 46
Cosmos
plant spacing for, 158
in Pollinator's Paradise garden, 149
in square foot garden, 161
Cover(ings), 123–129
for pest/critter protection, 128
supplies for raised bed under cover tool kit, 129
for weather protection, 124–128
Critter covers, 128
Critters, fencing and, 58–59, 60
Cross braces, 19, 35, 37, 43, 49, 53
Cucumbers
in Basic Kitchen Garden Grocery Store Bed, 137
depth/height of raised bed for, 19
in Kid's Garden, 147
in Late Summer Garden, 155
plant spacing for, 158
in Salad Station garden, 143
in square foot garden, 161
succession planting, 164
as *thrillers* in raised bed, 134
for the vertical garden, 85
as warm-weather crop, 80

Daisies, in Pollinator's Paradise garden, 149
Deer, 59, 128
Dill
in Fall Garden, 153
in Herb Garden, 145
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161
succession planting, 164
Disease
drip irrigation reducing, 114
preventing. *See* Fertilizer/fertilizing
spacing of plants and, 157
vertical gardening and, 84
DIY projects
covers, 124, 127–128, 128–129
raised bed cover, 60
raised bed plans, 34–53
for vertical gardening, 86–106
DIY soil mix, 66–72
Douglas fir, 29, 35, 42, 49
Drainage, 8–9, 16, 56, 57
Drainage holes, 52
Drip irrigation, 114

Early Spring Garden (Fall Garden), 152–153
Earthworm tea, 118–119, 120, 121
Edible flowers, 140, 142, 143. *See also* Nasturtiums
Eggplant, 13
depth/height of raised bed for, 19
partial sun for, 82
in partial sun garden, 82
in Pizza Garden, 140, 141
plant spacing for, 158
in square foot garden, 161
succession planting, 164
as warm-weather crop, 80
Elevating beds, 56
Erosion, mulching preventing, 109

Fabric raised beds, 33, 56
Fall Garden, 152–153
Fall, planting in the, 80
Fence Slat Chicken Wire Trellis, 92–95
Fencing, 58–59
Fertilizer/fertilizing, 116–122
about, 116–117
compost, 117
schedule for, 119–121
time-release, 117–118
worm castings, 118
worm casting tea, 118–119
Fillers, 134, 136
Fish emulsion (fertilizer), 119, 121
Flagstone, pathways made from, 22
"Floating" row cover, 128
Flowers. *See also* specific flowers
cool-weather, 81
planted in between vegetables, 83
in Pollinator's Paradise garden, 148–149
for vertical gardening, 85
warm-weather, 80
Fly ash, 29
Forget-me-nots
plant spacing for, 158
in Pollinator's Paradise garden, 149
in square foot garden, 161
Freestanding raised bed
The Mini Elevated Raised Bed design, 48–52
on a slope, 55
Frost date, planting few weeks before the last, 81

Galvanized cattle panels, 86
Galvanized metal, raised beds made from, 30
Galvanized wire fencing
for A-Frame Trellis, 96–100
fencing made from, 60
Garden arches, 86–91
Garden stakes
for A-Frame Trellis, 96–100
for The Build-It-In-Place Raised Bed for a Slope, 42
for DIY cold weather covers, 124
for Super Sturdy Tomato Cage, 104–106
Garlic. *See also* Alliums
in Basic Kitchen Garden Grocery Store Bed, 137
in Salsa Garden, 139
Good Dirt plant food, 119, 120, 121, 122
Good Dirt soil conditioner, 69
Gophers, 58, 59, 60
Granular organic fertilizers, 118, 120, 122
Grapes, 85, 86

Grass
lining raised beds placed on, 56
as pathway, 22

Hardscape pathways, 22
Heirloom tomatoes, 150
Herb Garden, 144–145
Herbs, 13. *See also* specific herbs
cool-weather, 81
depth/height of raised bed for, 19
in partial sun garden, 82
in Salad Station garden, 143
warm-weather, 80
Hill. *See* Slope(s)
Hill mound method (Hügelkulture), 75
Hot weather covers, 127–128
Hügelkulture method, 75
Hummingbirds, 83, 157

Intensive planting, 159–161
Interplanting, 83, 157

Kale
in Basic Kitchen Garden Grocery Store Bed, 137
as cool-weather crop, 81
depth/height of raised bed for, 19
as *filler* in raised beds, 134
in Late Summer Garden, 155
light requirements, 15
in partial sun garden, 82
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161
succession planting, 164
as warm-weather crop, 80
Keep it Simple and Thrifty Mix (DIY soil mix), 71
Keep It Simple Raised Wood Bed, 34–37
The Keep it Simple Wood Raised Bed, 34–37
Kid's Garden, 146–147
Kitchen gardens, 13, 136–137
Kohlrabi
in Basic Kitchen Garden Grocery Store Bed, 137
in Fall Garden, 153
plant spacing for, 158
in square foot garden, 161

Landscape fabric, 47, 49, 52, 57, 128
Lasagna method, 74
Late Summer Garden, 154–155
Lavender
in Herb Garden, 145
plant spacing for, 158
in square foot garden, 161
Layered No-Dig (Lasagna) method of filling raised beds, 74
Layout, garden. *See* Planting plans
Leaves. *See* Shredded leaves
Lettuce
in Basic Kitchen Garden Grocery Store Bed, 137
as cool-weather crop, 81
depth/height of raised bed for, 19
in Fall Garden, 153
as *filler* in raised beds, 134
in Kid's Garden, 147
light requirements, 15
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161
succession planting, 164, 166
Light. *See* Sunlight
Lime, concrete blocks and, 29
Liquid fertilizer, 118–119, 120
Liquid water soluble fertilizer, 120
Livestock panels, 60

Melons
partial sun for, 82
in partial sun garden, 82
plant spacing for, 158
in square foot garden, 161
succession planting, 164
Mel's Mix (DIY soil mix), 72, 159, 160
Metal mesh hardware cloth, 58
The Mini Elevated Raised Bed, 48–52, 56, 146
Mint
in Herb Garden, 144, 145
plant spacing for, 158
in square foot garden, 161
Mint Elevated Raised Bed, 48–53
Moisture retention, of soil, 64
Moles, 58, 59
Mortar, for building a concrete block raised bed, 40
Mulch(ing)
applying, 110
benefits of, 109
long-term soil maintenance using, 130
materials for, 106
pathways made from, 22
purpose of, 108
Mustard greens, 82
as cool-weather crop, 81
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161

Nasturtiums, 83, 85, 134
in Fall Garden, 153
in Pizza Garden, 140, 141
planted along edges of the bed, 156
plant spacing for, 158
in Pollinator's Paradise garden, 149
in Salad Station garden, 142, 143
in square foot garden, 161
Native soil
DIY soil mix using, 71
for layered no-dig method, 74
as pathway, 22
weed-filled soil and, 76–77
Nitrogen, in fertilizer, 117, 120, 121

Onions. *See also* Alliums
in Basic Kitchen Garden Grocery Store Bed, 137
as cool-weather crop, 81
depth/height of raised bed for, 19
plant spacing for, 158
in Salad Station garden, 143
in Salsa Garden, 138, 139
in square foot garden, 161
Oregano
in Pizza Garden, 141
plant spacing for, 158
in square foot garden, 161
Organic fertilizer, 66, 117–118, 120, 122

Parsley
in Basic Kitchen Garden Grocery Store Bed, 137
in Herb Garden, 145
plant spacing for, 158
in square foot garden, 161
succession planting, 164
Pathways, 21–22
Pavers, pathways made from, 22
Pea gravel, pathways made from, 22
Peas, 13
in Basic Kitchen Garden Grocery Store Bed, 137
as cool-weather crop, 81
depth/height of raised bed for, 19
in Fall Garden, 153
in Kid's Garden, 147
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161
succession planting, 164
for the vertical garden, 85
Peat moss, in DIY soil mix, 66, 67, 69, 71
Pelleted organic fertilizer, 118, 120, 122
Peppers, 13
in Basic Kitchen Garden Grocery Store Bed, 137
depth/height of raised bed for, 19
partial sun for, 82
in partial sun garden, 82
in Pizza Garden, 140
plant spacing for, 158
in Salad Station garden, 143
In Salsa Garden, 138
in Salsa Garden, 139
in square foot garden, 161
succession planting, 164
as *thrillers* in raised bed, 134
in Tomato and Pepper Lover's Delight garden, 150–151
as warm-weather crop, 80
Perlite, in DIY soil mix, 69
Pest covers, 128
Phosphorous, 117
PH, soil, 29, 69
Pine needles, 73, 108
Pine wood, 27, 29, 35, 42, 49
Pizza Garden, 140–141
Planning for raised beds, 11–14
Planting. *See also* Planting plans
arrangement of plants when, 156–157
intensive (square foot) planting, 159–161

row planting, 158–159
spacing between plants, 157–158
succession planting, 162–167
thrillers, spillers, and fillers when, 134
Planting plans, 135–155
Basic Kitchen Garden Grocery Store Bed layout, 136–137
Fall Garden layout, 152–153
Herb Garden layout, 144–145
Kid's Garden layout, 146–147
Late Summer Garden layout, 154–155
Pizza Garden layout, 140–141
Pollinator's Paradise layout, 148–149
Salad Station layout, 142–143
Salsa Garden layout, 138–139
Tomato and Pepper Lover's Delight layout, 150–151
Plant spacing, 157, 158
Plastic, lining beds with, 56
Plastic mesh, 60
Pole beans
plant spacing for, 158
in square foot garden, 161
succession planting, 163
for the vertical garden, 85
Pollinators
in corners of the raised bed, 157
in Herb Garden, 144
for Salsa Garden, 139
tips for bringing in, 83
Pollinator's Paradise, 148–149
Poppies, 83
plant spacing for, 158
in Pollinator's Paradise garden, 149
in square foot garden, 161
Potassium, in fertilizer, 117
Poultry netting, 92
Poultry wire, 60, 128
Prefab raised beds, 32
Pre-made raised beds, 32, 33, 56
Pumpkins
depth/height of raised bed for, 19
for the vertical garden, 85

Quick and Thrifty method of filling raised beds, 73

Rabbits, 59, 60
Radishes, 13
in Basic Kitchen Garden Grocery Store Bed, 137
as cool-weather crop, 81
in Fall Garden, 153
in Kid's Garden, 147
in partial sun garden, 82
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161
succession planting, 164, 166
Raised beds
about, 7
amount of space for, 12–14
benefits of, 7–9
choosing best location for, 14–17
pathways between, 21
size and shape of, 18–20
time needed for, 12
Redwood planks, 28, 35, 42, 49, 92
Retaining walls, for building a raised bed on a slope, 54
Rocks and stones
raised beds made from, 30
Rodents, 59, 74, 128
Roots
benefits of drip irrigation and, 114
frequency of watering and, 113
Root structure, height of raised beds and, 19
Rosemary
in Herb Garden, 145
plant spacing for, 158
in square foot garden, 161
Row planting, 158–159
Runner beans, 83, 84, 85, 86, 96, 158, 161

Sage
in Herb Garden, 145
plant spacing for, 158
in square foot garden, 161
Salad Station, 142–143
Salsa Garden, 138–139
Self-sufficiency, raised bed gardening for, 13
Shaded garden beds, 15
Shape of raised beds, 18–19
Shredded leaves
long-term soil maintenance using, 130
mulching with, 108
pathways made from, 22
placed on top of lining in raised beds, 57
Size of raised beds, 18, 19–20
Slope(s)
building a raised bed in place for, 42–47
raised bed gardens on a, 17
Soil, 63–77
benefits of raised beds and, 8, 9
commercial ready-made, 65
common pitfalls when filling, 76–77
components of healthy, 62, 67
contaminated, 76
DIY mix ingredients, 66, 68–69
long-term maintenance of, 130
making your own mix, 66–67
methods for filling the raised beds with, 72–75
pros and cons of making your own, 66–67
quality, importance of, 66
recipes for DIY mixes, 70–72
using free or inexpensive, 63–64
weed-filled, 76–77
Soil squeeze test, 66
Space for raised beds, 12–13
Spillers, 80, 134, 136
Spinach
as cool-weather crop, 81
depth/height of raised bed for, 19
in Fall Garden, 153
light requirements, 15
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161
succession planting, 164
Sprawling plants, 156
Square foot gardening method, 159, 160
Squash, 13
in Basic Kitchen Garden Grocery Store Bed1, 137
depth/height of raised bed for, 19
in Late Summer Garden, 155
in Pizza Garden, 140
planted along edges of the bed, 156
plant spacing for, 158
in square foot garden, 161
succession planting, 164
for the vertical garden, 85
vining, where to grow in raised bed, 134
as warm-weather crop, 80
Staggered rows, planting in, 159
Sticks/branches, placed on top of lining for raised beds, 57
Stone(s)
pathways made from, 22
raised beds made from, 31
Stone surfaces, 42, 56
Straw
mulching with, 108
pathways made from, 22
placed on top of lining in raised beds, 57
Strawberries, 134
in Basic Kitchen Garden Grocery Store Bed, 137
planting along edges of the bed, 156
plant spacing for, 158
in square foot garden, 161
Succession planting, 160, 162–167
Sunflowers
in Basic Kitchen Garden Grocery Store Bed, 137
in Kid's Garden, 147
plant spacing for, 158
in Pollinator's Paradise garden, 149
in Salsa Garden, 139
in square foot garden, 161
as *thrillers* in raised bed, 134
for the vertical garden, 85
Sunlight
positioning beds for, 16
requirement, 15
for Salsa Garden, 139
vegetables growing in partial, 82
Sweet alyssum, 80, 83, 134
Sweet potatoes, 19
Sweet potato vine, 134

Tarragon
in Herb Garden, 145
plant spacing for, 158
in square foot garden, 161
Teepee Trellis, 101–103

Temperatures
cool-weather crops, 81
hot weather covers and, 127
for Salad Station garden, 142
warm-weather crops, 80
Terraced garden, 54–55
Thrillers, 80, 134
Thyme
in Herb Garden, 145
plant spacing for, 158
in square foot garden, 161
Time-released fertilizer, 117–118
Tomatillos
plant spacing for, 158
in Salsa Garden, 139
in square foot garden, 161
Tomato and Pepper Lover's Delight, 150–151
Tomatoes, 13
in Basic Kitchen Garden Grocery Store Bed, 137
depth/height of raised bed for, 19
heirloom varieties, 150
in Kid's Garden, 147
in Late Summer Garden, 155
light requirements, 15
partial sun for, 82
in partial sun garden, 82
in Pizza Garden, 140
plant spacing for, 158
in Salad Station garden, 143
In Salsa Garden, 138
in Salsa Garden, 138, 139
in square foot garden, 161
succession planting, 164
as *thrillers* in raised bed, 134
in Tomato and Pepper Lover's Delight garden, 150–151
for the vertical garden, 85
as warm-weather crop, 80
Tools
for building raised beds, 35, 43, 49
for vertical gardening projects, 87, 92, 96, 104
Topsoil, in in DIY soil mix, 66, 68, 71
T-posts, 87, 88, 90
Transplants
cool-weather crops, 81
fertilizing, 120
succession planting and, 166
Treated wood, 28
Trellises
A-Frame Trellis, 96–100
Cattle Panel Arch, 86–91
Fence Slat Chicken Wire Trellis, 92–95
seeking nontraditional materials for, 85
Super Sturdy Tomato Cage, 104–106
Teepee Trellis, 101–103
visual interest from, 84

Underfilling raised beds, 77
Underground utility lines, 17
Untreated wood, 28

Vegetables. *See also* individual types of vegetables
cool-weather. *See* Cool-weather crops
shade-tolerant, 82
for vertical gardening, 85
warm-weather. *See* Warm-weather crops
Vermicomposting, 68, 118, 119
Vermiculite
in DIY soil mix, 66, 69, 71, 72
for square foot garden, 160
VermisTerra Earthworm Castings, 118
VermisTerra worm casting tea, 119
Vertical gardening, 84–106
A-Frame Trellis, 96–100
benefits of, 84–85
Cattle Panel Arch project, 86–91
crops for, 85
Fence Slat Chicken Wire Trellis, 92–95
Super Sturdy Tomato Cage, 104–106
Teepee Trellis, 101–103
Vining vegetables, 13
Violas
plant spacing for, 158
in Salad Station garden, 142, 143
in square foot garden, 161
Voles, 59, 60

Wando, 137, 143
Warm-weather crops, 80
in Basic Kitchen Garden Grocery Store Bed, 137
in Herb Garden, 145
in Kid's Garden, 146, 147
in Late Summer Garden, 155
in Pollinator's Paradise garden, 148, 149
in Salad Station garden, 142, 143
in Salsa Garden, 139
succession planting and, 167
in Tomato and Pepper Lover's Delight garden, 150–151
Water(ing), 111–114
determining when you should, 111
by drip irrigation, 114
frequency of, 113
locating raised beds next to source of, 16
time of the day for, 112
Water conservation, mulching and, 109
Watermelon, 13, 19, 69, 85, 86
Water-soluble fertilizers, 118–119
Weather protection, covering your crops for, 124–128
Weed-filled soil, 76–77
Weeds, 8
lining raised beds placed on, 56
mulching and, 109
Wildflower seed mix, 83
plant spacing for, 158
in Pollinator's Paradise garden, 149
in square foot garden, 161
Wilting plants, 112
Wire fencing (galvanized), for A-Frame Trellis, 96–100
Wire mesh
for fencing, 60
lining your raised bed with, 57
Wood chips
mulching with, 108
pathways made from, 22
Woodchucks, 59, 60
Wood, raised beds made from, 27–29, 34–37
Wood surfaces, lining raised beds placed on, 56
Worm castings, 109
in DIY soil mix, 68, 71
fertilizing with, 118, 120, 121, 122
Worm casting tea, 118–119, 120, 121

Zinnias
in Basic Kitchen Garden Grocery Store Bed, 137
as *filler* in raised beds, 134
in Kid's Garden, 147
in Late Summer Garden, 155
plant spacing for, 158
in Pollinator's Paradise garden, 149
in Salad Station garden, 142, 143
in square foot garden, 161
for the vertical garden, 85
Zucchini, 161, 163. *See also* Squash